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(54) Title: HYDROXYLASES AND MODULATORS THEREOF

(57) Abstract: A method of identifying, screening, characterising or designing a chemical entity, which mimics or binds to FIH, is described. The method comprises comparing a structural model of FIH with a structural model for said chemical entity, wherein said structural model of FIH is derived from structural factors or structural coordinates determined by subjecting to X-ray diffraction measurements a crystal comprising FIH. Such chemical entities may be used in the treatment of a condition associated with increased or decreased HIF levels or activity.

HYDROXYLASES AND MODULATORS THEREOF

Field of Invention

The present invention relates to methods of designing inhibitors of FIH using the crystal structure of FIH, and to inhibitors of FIH and their use in the treatment of ischaemia.

Background of the Invention

In cells of many organisms exposure to an environment in which oxygen is depleted relative to optimal levels induces a hypoxic response. In these hypoxic cells, activation of a transcriptional cascade involving hypoxia inducible factor (HIF) directs a series of adaptive responses that enhance oxygen delivery or limit oxygen demand. Activation of HIF in cancer and ischaemic hypoxic vascular diseases has revealed its important role in human pathology and demonstrated that manipulation of HIF activity has important therapeutic potential.

The HIF transcriptional complex comprises an αβ heterodimer, HIF-β being a constitutive nuclear protein that dimerises with oxygen regulated HIF-α subunits (Semenza, G. L. (2000) *Genes Dev.* **14**, 19831991). The activity of HIF-α, is suppressed by oxygen-dependent modification catalysed by a series of $Fe^{(II)}$ and 2OG dependent dioxygenases that hydroxylate specific HIF-α residues. In the presence of oxygen in human HIF-1α, 4-hydroxylation of Pro402 or Pro564 by a set of HIF prolyl hydroxylase isozymes (PHD1-3) (Epstein et al. (2001) *Cell* **107**, 4354; Bruick, R. K., and McKnight, S. L. (2001) *Science* **294**, 13371340) mediates its recognition by the von Hippel-Lindau (VHL) ubiquitin ligase complex and consequent targeting for proteasomal destruction (Ivan et al, (2001) *Science* **292**, 464468; Jaakkola et al (2001) *Science* **292**, 468472, WO 02/074981). In a complementary mechanism FIH catalyses β-hydroxylation of HIF-1α Asn803 (Lando et al, (2002) *Science* **295**, 858861) blocking interaction with the transcriptional co-activator p300 (Dames et al., (2002) *Proc. Natl. Acad. Sci. U. S. A.* **99**, 52715276; Freedman et al, (2002) *Proc. Natl. Acad. Sci. U. S. A.* **99**, 53675372). In hypoxia, limitation of enzymatic activity allows HIF-α to escape destruction and become transcriptionally active.

Inhibition of HIF hydroxylases strongly activates the HIF transcriptional cascade even in the presence of oxygen (Epstein et al.(2001) *Cell* **107**, 4354). Thus, inhibition of the HIF hydroxylases results in a pro-angiogenetic response that may be used in the treatment of cardiovascular diseases/ ischaemic hypoxic vascular diseases including myocardial infarction and anaemia. A problem with this approach is that the human cells contain other enzymes belonging to the same family as the HIF hydroxylases, i.e. utilising dioxygen (a cosubstrate), 2-oxoglutarate (2OG) (a cosubstrate) and Fe(II) (a cofactor). Such enzymes are exemplified by phytanoyl coenzyme A hydroxylase, procollagen prolyl-4-hydroxylase, procollagen prolyl-3-hydroxylase, gamma-butyrobetaine hydroxylase, Alk B (a DNA repair enzyme) and others including predicted 2OG oxygenases identified on the basis of sequence analyses including a sub-family related to FIH (Hewitson et al., J BIOL CHEM 277 (29): 26351-26355, 2002). It is generally agreed that it is desirable that enzyme inhibitors used as pharmaceuticals are selective for their intended target or the targets involved in producing the desired effect. A lack of selectivity can lead to toxic side effects that render particular compounds unsuitable for use in human or animal therapy. One approach to identifying compounds that are selective for the intended target is to undertake structural, mechanistic and other analyses on the intended agents and to use the information gained to aid in the preparation of selective compounds, or more selective compounds (relative to those previously known), for use as pharmaceuticals for use in humans or animals. Here we describe structural and other studies on the HIF hydroxylases that enable the design of selective inhibitors of FIH and related enzymes.

Summary of the Invention

The present inventors have now identified the site of hydroxylation of asparagine 803 of HIF-1α by FIH. In addition, the inventors have obtained the crystal structure for FIH including identification of the binding site and residues involved in the interaction of FIH with HIF.

Accordingly, the present invention provides a method of identifying, screening, characterising or designing a chemical entity which mimics or binds to FIH, which method comprises comparing a structural model of FIH with a structural

model for said chemical entity, wherein said structural model of FIH is derived from structural factors or structural coordinates determined by subjecting to X-ray diffraction measurements a crystal comprising FIH.

The invention also provides for:

- the use of the structural co-ordinates obtainable by subjecting a crystal comprising FIH to X-ray diffraction measurements and deducing the structural co-ordinates from the diffraction measurements, to identify, screen, characterise, design or modify a chemical entity;
- a chemical entity identified by a method of the invention, wherein said chemical entity inhibits the asparaginyl hydroxylase activity of FIH; and
- a chemical entity of the invention for use in a method of treatment.

Description of the Figures

Figure 1: 2OG binding site.

Figure 2: binding of Asn-803.

Figure 3: conformation of CAD at site 1.

Figure 4: conformation of CAD at site 2.

Figure 5: figure indicating the turn formed by 802-804 of HIF-CAD at the active site of FIH.

Figure 6: conformation of the turn formed by residues 802-804 of HIF-CAD at the active site of FIH.

Detailed Description of the Invention

The present inventors have identified the position of asparagine 803 that is hydroxylated by FIH. In addition, the inventors have identified the crystal structure of FIH. This structure therefore allows for identification of the amino acid residues involved in binding of FIH to HIF.

The identification of the interaction and the structures allows for the characterisation or identification of chemical entities which can bind and in particular which can inhibit FIH. A number of different types of inhibitors can be identified as discussed in more detail below.

The inventors have successfully crystallised human FIH. This the first crystallisation of FIH and has enabled determination of the crystal structure. Co-ordinates from the crystal analysis are set out in Table 3 below. The studies have allowed analysis of the binding of asparagine-803 of HIF and analysis of the conformation of the c-terminal activation domain (CAD) of HIF at the binding sites to FIH. The present invention provides the use of the structural co-ordinates of FIH to identify, characterise, design or screen chemical entities. The chemical entities of interest are those which bind to FIH and in particular which inhibit the asparaginyl hydroxylase activity of FIH. In addition, chemical entities may be identified, characterised or designed which are modified asparagine hydroxylases.

Typically, the structural co-ordinates used are obtainable by subjecting a crystal comprising FIH or a fragment thereof to X-ray diffraction measurements and deducing the structural co-ordinates from the diffraction measurements, to identify, screen, characterise, design or modify a chemical entity. The structural co-ordinates indicate the positions of individual atoms within the crystal and give an indication of the space available for adjusting the position of individual atoms when designing a chemical entity.

The crystal subjected to X-ray diffraction methods comprises FIH or a fragment thereof. The FIH may be from any source but is preferably human FIH. The FIH may be a modified form. For example, the FIH may be modified by insertion, deletion, n-terminal or C-terminal addition, or substitution of amino acid by another amino acid. Amino acid substitutions may be conservative substitutions. Typically, when crystallised, a FIH mutant will adopt a similar 3-dimensional structure to that adopted by the corresponding FIH. A mutant may be an inactive FIH.

References to FIH herein refer to FIH and homologues thereof. Amino acid residues are defined with reference to the position in FIH (see e.g. Hewitson et al). The relevant amino acid residues of homologues of FIH are the equivalent amino acid residues, based on for example the best alignment of homologue to FIH.

A FIH may be isolated by any suitable means for use in crystallisation studies. For example, a FIH may be purified using biochemical means from a suitable source. Typically, however, it will convenient to over express FIH in cells and purify FIH from those cells. Thus, a polynucleotide encoding a FIH may be used

in the construction of a vector. The FIH may be crystallised according to any method known to those skilled in the art. X-ray diffraction may be carried according to any suitable method. The data collected from X-ray diffraction experiments may be processed to deduce the structural co-ordinates of FIH using any suitable method.

The invention provides the use of structural co-ordinates to identify, characterise, design or screen a chemical entity. The chemical entity may be one which binds to FIH, or which acts as an inhibitor of asparaginyl hydroxylase activity. Alternatively, the chemical entity may be a modified FIH to alter the activity of a FIH.

A chemical entity which binds to or inhibits FIH is any chemical entity capable of forming an association with the FIH. The binding or inhibition may be non-specific, for example, such an entity may also bind to or inhibit other 2OG oxygenases. Alternatively, an agent may be designed or identified which specifically binds to or inhibits asparaginyl hydroxylases. An agent may be designed or identified which is a specific inhibitor of FIH, but not other asparaginyl hydroxylases.

The structural co-ordinates of FIH allows a skilled person to predict which amino acids are important in active site formation and which amino acids are important in contacting the substrate. The substrate binding site may be shown as a 2 dimensional representation or a 3 dimensional representation produced by physical models or displayed on a computer screen. Such representations can be used to design, identify or screen chemical entities which bind to or inhibit or are predicted to bind to or inhibit FIH. Such representations can also be used to identify modifications of FIH to alter its activity characteristics.

Examples of modifications to FIH include modifications to increase the binding of FIH for its substrate, or to alter the substrate the specificity. Alternative modifications include those which alter the activity of FIH, for example, to remove asparaginyl hydroxylase activity.

The representations of the structures may be used in other ways. For example, the representations of the FIH active site may be used to model constraints by the putative introduction of covalent bonds between the atoms which come close together when FIH binds to a substrate. Representation of the active site may be used to predict which residues of FIH are likely to be involved in steric hindrance.

Such residues may be modified, replaced or deleted to decrease esoteric hindrance in order to increase avidity of the peptide for its substrates.

In general, it will be necessary to process the structural co-ordinates obtainable according to the invention in computer-based methods in order to identify or design chemical entities with the desired molecular structure or to identify chemical entities whose structure is complementary to all or part of another chemical entity of interest. Thus, chemical entities which have a structure similar to FIH may be identified or designed. Chemical entities which bind to FIH may be identified or designed. Preferably, such chemical entities bind at the active site of FIH and in general may act as inhibitors of asparaginyl hydroxylase activity.

Such computer-based methods fall into two broad classes: database methods and *de novo* designed methods. In database methods, the chemical entity of interest is compared to all chemical entities present in a database of chemical structures and chemical identities whose structure is in some way similar to the compound of interest identified. The structures in the database are based either on experimental data, generated by NMR or X-ray crystallography, or models of 3 dimensional structures based on 2 dimensional data. In *de novo* design methods, models of chemical entities, for example such are those which might bind to FIH are generated by a computer program using information derived from known structures and/or theoretical rules.

Similarly, the FIH structural coordinates may be used to screen for the expected activity of chemical entities selected, designed or shown to be modulators such as inhibitors of other hydroxylases, for example prolyl hydroxylases. For example the compounds may be screened to assess the likelihood of a prolyl hydroxylase inhibitor additionally inhibiting FIH hydroxylase. Such screening methods may be useful in identifying agents which selectively inhibit HIF prolyl hydroxylase, but not HIF asparaginyl hydroxylase.

Chemical entities designed or selected according to the methods of the invention may be tested and optimised using computational or experimental evaluation. Experimental methods to assay for the activity of asparaginyl hydroxylase are described in more detail below.

Based on the structure of FIH, a number of different types of inhibitors can be identified. These inhibitors are discussed in more detail below.

Dimerisation inhibitors

The crystallographic asymmetric unit contains one FIH molecule. However, analysis of crystallographic symmetry revealed a dimeric form of FIH, consistent with native gel-electrophoresis analysis. The dimer interface involves the two C-terminal helices of each molecule in an interlocking arrangement predominantly involving hydrophobic interactions. This unusual interface buries a surface area of 3210 $Å^2$, large on average by comparison to other dimeric proteins of this size. Inhibitors of dimerisation include those that bind to residues that form the dimerisation interface including residues selected from 330-346, such as Leu-340 and Ile-344. Inhibitors include peptides or peptide mimetics that correspond to all or part of the FIH residues involved in the dimerisation interface.

For example, such inhibitors may comprise a fragment of FIH, for example, including the residues from 340 to 344, preferably, including residues 330 to 346. Such a fragment may typically have 6 or 10 amino acids in length, preferably, up to 15 or 20 amino acids in length. Alternatively, peptide homologues may be used, for example, which comprise a homologue to the residues of 340 to 344 or 330 to 336, including 1, 2 or more substitutions. Additional agents include peptides or peptide mimetics which can be designed based on the crystal structure to interfere with dimerisation.

Inhibitors exploiting metal binding in FIH:

The structural work defines the presence of Fe(II) at the active site of FIH and by implication related HIF hydroxylases. The iron is bound in an almost octahedral manner by the side chains of His199, Asp201 and His279, the 2-oxo and 1-carboxylate groups of 2OG. In the enzyme-substrate complexes there is a vacant position opposite His279 revealing that the enzyme is primed for dioxygen binding. Accommodation of a ligand opposite His279 may require disruption of the hydrogen bond between Asp201 and CAD Asn803 (the iron and Asn803 β-carbon are only ~4.9 Å apart). Subsequent decarboxylation of 2OG presumably yields an iron-oxo

species [$Fe^{(IV)}$=O <–> $Fe^{(III)}$-O·] that effects oxidation at the carbon of Asn-803 in the C-terminal transactivation domain (CAD) of HIF.

Compounds that contain functional groups that bind to iron are useful as inhibitors of FIH. Examples of such compounds include thiols, alcohols, phenols including flavonoids such as quercitin and derivatives thereof, carbohydrates, hydroxamates, imidazoles and other heterocycles for example nitrogen containing heterocycles.

$Zn^{(II)}$ binds to FIH in an identical manner to $Fe^{(II)}$ (structure 3), consistent with the metal-mediated hypoxic effect being due to displacement of $Fe^{(II)}$ from the active site of HIF hydroxylases. Since neither Zn(II) nor other metal inhibitors of FIH can replace Fe(II) as a cofactor in catalysis, compounds that preferentially promote the binding of a metal other than iron [such as Zn(II)] at the active site of FIH act as inhibitors.

A further class of inhibitor are non-metallic inhibitors that operate via competing with Fe(II) for binding at the active site. Such inhibitors may bind to any or all of the triad of residues (His-199, Asp-201, His-279), that bind the Fe(II) at the active site of catalytically active FIH.

Inhibitors exploiting the 2OG binding sites

The FIH:CAD structures with NOG reveal that like 2OG it is ligated to iron in a bidentate manner and imply it is an inhibitor due to decreased susceptibility to attack by an iron bound (su)peroxide intermediate or by hindering binding of dioxygen to the metal.

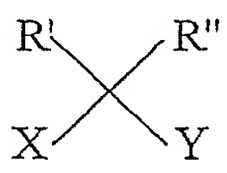
The structural studies on FIH reveal the binding interactions for the 2OG and NOG (see for example Figure 1). The 5-carboxylate of 2OG (and the equivalent carboxylate of NOG) forms hydrogen bonds with the side-chains of Lys214, Thr196 and Tyr145; such interactions are unprecedented in other structures of 2OG oxygenases. FIH is further unusual in that Lys214 is on the fourth DSBH (double stranded beta-helix) β-strand whereas previously assigned basic 2OG-5-carboxylate binding residues are at the beginning of the eighth DSBH strand.

The structural studies reveal the FIH residues that form the pocket into which 2OG and NOG bind. In addition to the aforementioned these include the side-chains

of Ile-281, Leu-186, Leu-188, Phe-207, Thr-196. Knowledge of these interactions enables the design of improved (as measured by binding parameters) and selective inhibitors. Thus, for example an inhibitor binding in the 2OG binding pocket may form hydrophobic interactions with any or all of the side chains of Ile-281, Leu-186 Leu-188, Phe-207, Thr-196. Further it may form electrostatic or hydrogen bonding interactions with the residues involved in binding the 5-carboxylate of 2OG (Lys214, Thr196 and Tyr145).

Selective inhibition of FIH via inhibitors interacting with the 2OG binding residues is exemplified as follows: kinetic analyses of a series of inhibitors based upon *N*-oxaloyl amino acids revealed the *R*-enantiomer (IC_{50} 0.4 mM) of *N*-oxaloylalanine was significantly more potent than the *S*-enantiomer (IC_{50} 2.5 mM). Analysis of the 2OG binding pocket in FIH reveals that the binding of the S-enantiomer is hindered by interactions between its methyl group and the side chain of Thr-196 and, Ile-281 in the 2OG binding pocket. A reversed selectivity (i.e. the S-enantiomer was more potent) was observed both for procollagen prolyl-hydroxylase and the PHD isozymes, demonstrating it should be possible to develop selective inhibitors for individual types of HIF hydroxylase. Such inhibitors may or may not chelate to an active site metal.

Compounds include those of general formula



(I)

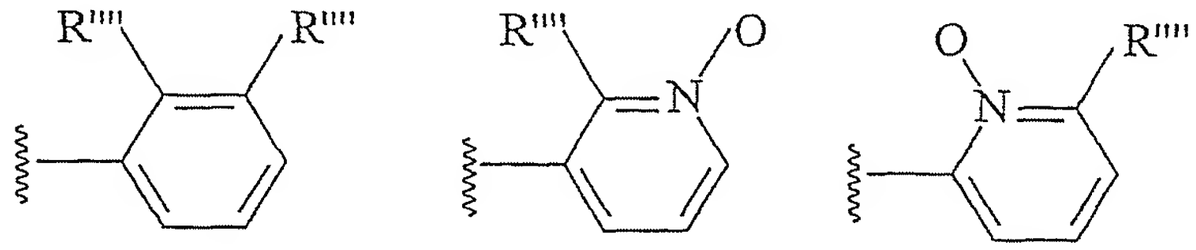
wherein each of R′ and R", which may be the same or different, is H, F or C_1 to C_3 alkyl or substituted alkyl, CH_2OH, CH_2CO_2H or $CONH_2$, X is COOH, SOOH, or CONHH or an ester thereof, or heterocyclic or other group which forms a favourable interaction with one or more of the side chains of Lys-214, Thr-196 and Tyr-145, i.e. those residues involved in binding the 5-carboxylate of 2OG as revealed in the crystallographic analyses,

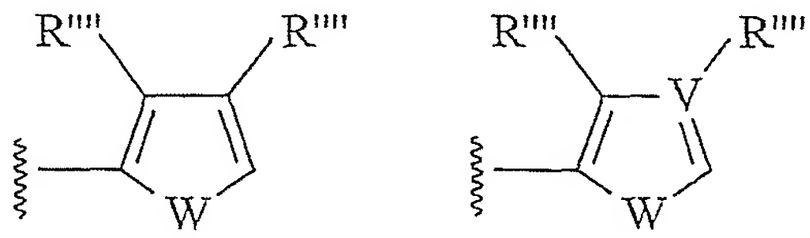
Y is - $(CR'''R''')_nZ$, where Z is

- $NR'''COCOOH$, $-NR'''CSCOOH$, - $NR'''COCOSH$,

- $CHSR'''CONR'''R''''$, $-CHOR'''CONR'''OR'''$, - $CHSR'''CONR'''OR'''$ or

- $CHOR'''CONR'''NR'''OR'''$, wherein each R''', which may be the same or different, is H, alkyl, OH or O-alkyl, n is 0 to 3 and preferably 0, or





wherein R'''' is OH, OR''' or $NHCOR'''$, and W is S, NH, or O.

Thus X is a group that forms favourable interactions with one or more of the side chains of interactions one or more of the side chains of Lys-214, Thr-196 and Tyr-145, i.e. those residues involved in binding the 5-carboxylate of 2OG. X may be functionalised as a pro-drug such that is delivered to the desired site of action or has desirable pharmokinetic properties. As indicated above, X can be an ester such a methyl or ethyl ester or amide derivative of carboxylic acid versions of X.

If n is 0, Y is typically CONHOH, $CONHNH_2$, $NR'''COCOOH$, $NR'''CSCOOH$ or $NR'''COCOSH$. Y is preferentially of a size such that it can chelate to the active site metal whilst maintaining all or some of the favourable binding interactions found in the 2OG binding pocket as defined by crystallographic analyses. As with X, Y may be functionalised as a pro-drug.

When Y contains an aromatic ring as indicated above it can comprise other ring systems including aryl or functionalised aryl rings as well as heterocyclic and functionalised heterocyclic rings. The above rings may be further functionalised to optimise binding at the FIH active site.

Inhibitors exploiting the peptide substrate binding site

There are two binding sites

The ES complex structures unexpectedly reveal two separate binding sites involving $CAD_{795-806}$ (i.e residues 795-806 of the C-terminal transactivation domain of HIF) (Site 1) and $CAD_{813-822}$ of HIF (Site 2) with contact surface areas of 1640 $Å^2$ and 1080 $Å^2$, respectively (see for example the figures). CAD residues in these regions are conserved in all known HIF-1α and HIF-2α sequences. The electron density for site 1 was of good quality, with only the side-chain of Tyr798 poorly defined, while that for site 2 was at a lower level and quality, probably reflecting weaker binding at this site. $CAD_{804-806}$ and presumably also $CAD_{807-811}$, for which density was not observed, do not form direct interactions with FIH. Kinetic analyses employed to investigate the relative importance of Sites 1 and 2, revealed that fragments containing site 1 only are hydroxylated by FIH but less efficiently than those containing both sites demonstrating that both are important in binding and that both may be exploited in inhibition studies.

At Site 1 $CAD_{795-803}$ are bound in a groove and adopt a largely extended conformation linked to FIH by ten hydrogen bonds. Asn803 of CAD is strikingly buried at the active and directly adjacent to the $Fe^{(II)}$. CAD Asn803 and Ala804 form a tight turn, stabilised by a hydrogen bond between the backbone carbonyl of Val802 and NH of Ala804, which projects the side chain of Asn803 towards the $Fe^{(II)}$. The side chain of CAD Asn803 is precisely orientated by three hydrogen bonds to enable hydroxylation at the *pro-S* position of the β-carbon consistent with the NMR assignments (see above) The primary amide of CAD Asn803 is sandwiched between FIH residue Tyr102 and the $Fe^{(II)}$, and forms hydrogen bonds with the side chains of FIH residues Gln239 and Arg238 , residues located on the insert to the DSBH motif. Significantly, the substrate and $Fe^{(II)}$ binding sites are directly linked since the backbone nitrogen of CAD Asn803 also forms a hydrogen bond (~3 Å) with the carboxylate oxygen of Asp201 that is not complexed to the iron. Six additional hydrogen bonds stabilise the binding of FIH to $CAD_{795-801}$.

In contrast with Site 1, Site 2 is located on the FIH surface and involves only two hydrogen bonds. $CAD_{816-823}$ of Site 2 form an α-helix, in exact agreement with the structure of this region in complex with CBP/p300 (Dames et al., (2002) *Proc.*

Natl. Acad. Sci. U. S. A. **99**, 52715276; Freedman et al, (2002) *Proc. Natl. Acad. Sci. U. S. A.* **99**, 53675372). As in that complex, the highly conserved Leu818, Leu819 and Leu822 sit in a hydrophobic pocket on the surface of FIH and form the basis of the binding interaction and so it is not possible for these residues to bind simultaneously to CBP/p300 and FIH.

The extended loop conformation adopted by the CAD residues at Site 1, contrasts with the α-helical conformation adopted by the same residues when complexed with the 1st transcriptional adaptor zinc-binding domain (TAZ1) of CBP/p300(Dames et al.,(2002) *Proc. Natl. Acad. Sci. U. S. A.* **99**, 52715276; Freedman et al, (2002) *Proc. Natl. Acad. Sci. U. S. A.* **99**, 53675372). The disordered structure observed for the CAD, and other HIF-α residues, when free in solution may thus reflect a requirement to adopt more than one conformation for complex formation with different proteins.

The changes in the conformation of CAD on binding are complemented by changes in FIH revealing an induced fit binding process; Trp296 of FIH undergoes a 50° rotation about C_{beta}-C_{alpha} to accommodate CAD Val802, while both Tyr102 and Tyr103 become more ordered. Further evidence of induced fit comes from the significant differences in resolution between the structures obtained with and without CAD fragments bound reflecting ordering of FIH that occurs on binding (structure 4, for comparison, represents FIH complexed with $Fe^{(II)}$ and 2OG alone). Interference in the conformational changes involved in the hypoxic response, in particular those involving the CAD region, e.g. by use of small molecules or by gene or protein therapy, may allow manipulation of the hypoxic response to enable pro or anti-angiogenetic responses.

Thus, the structural studies define the (i) FIH residues involved in binding the CAD of HIF (ii) conformation of FIH when CAD is bound and (iii) conformation of CAD when bound to FIH. These results are useful in the design of selective inhibitors of FIH and related enzymes. Features of the FIH binding sites may be used to mediate tighter binding of inhibitors to FIH or to obtain inhibitors that do not bind tightly to FIH, i.e. avoid inhibition of FIH.

Inhibitors binding at or close to the Site 1 may exploit electrostatic, hydrogen binding and/or hydrophobic interactions with Tyr-102, Asp-104, Lys-106, Asp-201,

Glu-202, Gln-147, Gln-239, residues 299-303, His-313, Ala-317, Ile-318, Asn-321, Lys-324, Arg-238, Trp-296, Asn-321- Lys-324. Inhibitors binding at Site 1 may mimic or partially mimic the turn conformation adopted by CAD when bound at Site 1.

Inhibitors binding at or close to Site 2 may exploit electrostatic, hydrogen binding and/or hydrophobic interactions with residues Thr-149, Leu-150, Asn- 151, Asp-152 and residues Val-159, Phe-162, Leu-163, Trp-167, Gln-181, Leu-182, Thr-183, Ser- 184, Asn- 185. Inhibitors binding at Site 2 may mimic or partially mimic the helical conformation adopted by CAD when bound at Site 2.

It is recognised that inhibitors need not bind to both Sites 1 and 2, although that they may, and that Site 1 is preferred over Site 2.

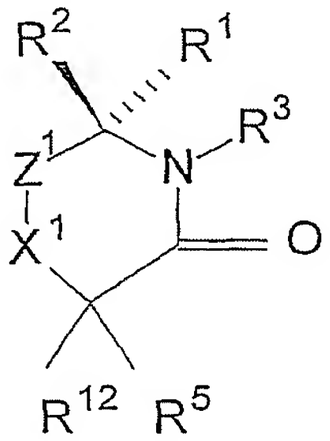
Residues 801 – 805 of CAD that bind at Site 1, and in particular residues 802-805 form a turn conformation in which the distance of the backbone C=O of 802 to the backbone NH of 804 is ca. 2.8 Å. Including the H-bond formed between the NH of Ala-804 and the carbonyl O of Val-802 of the HIF-1alpha CAD, the turn contains 7 atoms in a pseudo-ring.

Turns are especially amenable to mimicry by analogues useful for enzyme inhibition or receptor binding. The medicinal chemistry literature is replete with examples of such turn mimics. These can be modified by known methods to bind to specific targets, in particular given the knowledge of the target structure.

Examples of turn mimics and their modifications can be found in the following reviews: Hanessian et al, TETRAHEDRON 53: 12789-12854 SEP 22 1997; Gillespie et al, BIOPOLYMERS 43: 191-217 1997; and Burgess et al., ACCOUNTS CHEM RES 34: 826-835 2001). Recent examples of primary reports on turns include the following (and references therein) Maier et al, EUR J ORG CHEM: 2686-2689, 2002; Reid et al, J AM CHEM SOC 124: 5673-5683, 2002; Mahadevan et al, J BIOMOL STRUCT DYN 19: 775-788 2002; Eguchi et al, J MED CHEM 45: 1395-1398 2002; De Borggraeve et al, TETRAHEDRON LETTERS 42: 5693-5695 2001; Kohn et al, TETRAHEDRON LETT 42: 4453-4457 2001; Eguchi et al, TETRAHEDRON LETT 42: 1237-1239 2001; Manzoni et al, TETRAHEDRON 57: 249-255 2001; Jiang et al., HELV CHIM ACTA 83: 3097-3112 2000; Derrer et al, J CHEM SOC PERK T 1: 2957-2967 2000; Belvisi et al,

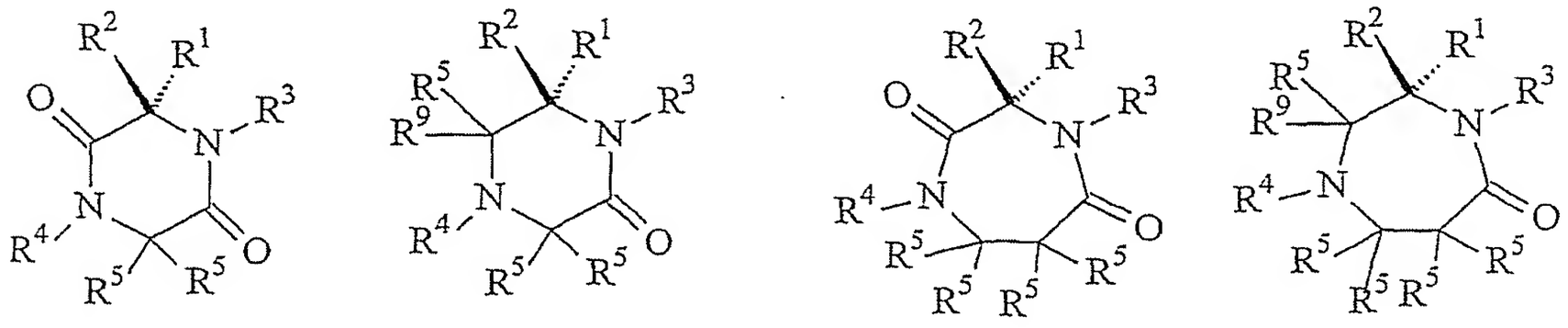
EUR J ORG CHEM: 2563-2569 2000; Claridge et al, BIOORG MED CHEM LETT 6: 485-490 1996.

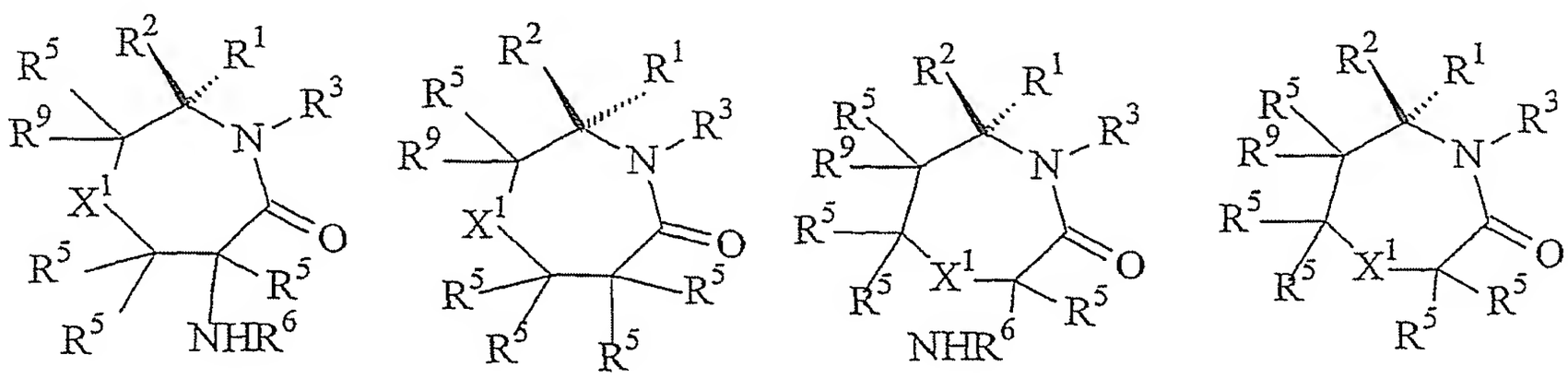
These include compounds of the general formula:



II

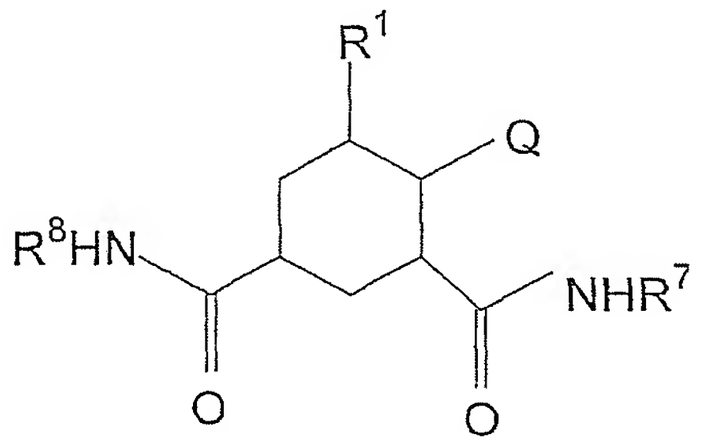
wherein R^1 is such that it can form an electrostatic or H-bonding interaction with Gln-237 and or Arg-238, preferably $CR^8R^9CONH_2$ or an analogue thereof where R^8 is hydrogen or a peptide or peptide mimetic (such as those composed of β-amino acids or peptide isoteres), and R^9 is hydrogen, optionally functionalised alkyl, optionally functionalised aryl, heteroaryl or any combination thereof such as CH_2CONH_2, R^2 is hydrogen or a group that will interact favourably with Tyr-102 of FIH, R^3 is H or a group which can form a H-bond with Asp-201, Z^1 is $\rangle C{=}O$ or $\rangle CR^5R^9$ where R^5 is hydrogen, optionally functionalised alkyl, aryl, or heteroaryl or any combination thereof, R^{12} is as defined for R^5 or is NHR^6 where R^6 is COR^5 or $SO_2R^5$and X^1 is NR^4, $NR^4C(R^5)_2$, $C(R^5)_2NR^4$, or O or NH where R^4 is COR^5 or SO_2R^5. In this and in the other formulae each R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11} and R^{12} can be the same or different. In particular, these compounds may have one of the formulae





wherein the radicals are as defined above, and R^7 and R^8 are independently peptides or peptides mimetics or part peptide mimetics, such as those containing or consisting of beta-amino acid residues, urethane, sulphonamide or phosphonamide links.

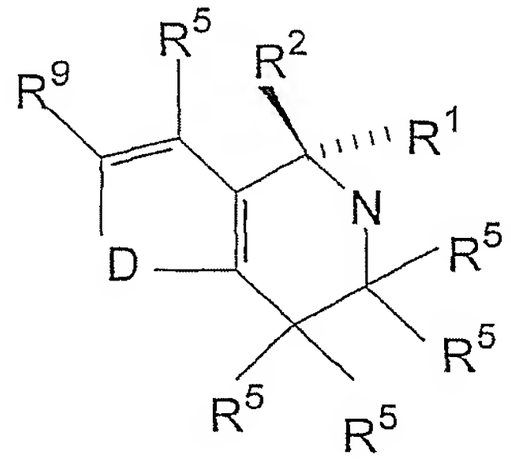
Other compounds which can be used are those possessing the formula



III

where Q represents H or OH and R^7 and R^8 are as defined above.

Further compounds which can be used possess the formula



IV

wherein R^1, R^2, R^5 and R^9 are as defined above and D is S, O, NH or $CHR^9=CHR^9$. Thus the ring attached to the six-membered ring is either a five-membered heterocyclic ring or an aryl ring.

In these formulae R^8 and R^9 can be optimised to bind in the channel linking the 2OG and peptide substrate binding sites and to the 2OG binding site itself.

Cyclic peptides acting as mimics of the turn adopted by CAD in site 1. The cyclo may be formed via peptide links, disulphide bonds or C-C bonds.

Inhibitors employing a combination of binding sites

It is well known that enzyme inhibitors competing for binding at more than one substrate or cosubstrate binding site, sometimes termed bisubstrate inhibitors, can be useful. Examples can be found in Wang et al, BIOCHEMISTRY-US: 15676-15683 2001; and Lerner et al, ANGEW CHEM INT EDIT 40, 4040-4041, 2001.

In the case of FIH and other 2OG oxygenases bisubtrate inhibitors may be useful since features of 2OG binding may be present in more than one enzyme whereas the CAD substrate is unique. Thus, inhibitors that bind to both binding sites may show improved selectivity over those that bind to the 2OG binding site only. The structural analyses enable the identification of such bisubtrate inhibitors. The 2OG and CAD binding sites are linked to each other via a 'channel' extending from the 2-oxo group of 2OG (or NOG) to the beta-carbon Asn-803 in the FIH.Fe.2OG/NOG.HIF(CAD) complexes. In the structures this 'channel' either appears empty but may be occupied by water molecules. The distance from the C of the 2-oxo group of 2OG to the beta-C of Asn-803 is ca. 6 Å. The distance from the 3-C of 2OG to the beta-C of Asn-803 is ca. 6.6 Å. The information from the structural analyses enables the identification of bisubstrate inhibitors, including the following:

These are compounds of formulae (II) to (IV) as defined above except that they are modified such that they can also bind into the 2OG binding pocket as defined by the crystallographic information. Thus, either R^2 or R^1 is modified such that they can bind into the 2OG binding pocket. The modification takes the form such that the general formula of R^1 or R^2 is A-X where X is as defined above and A links X to (II). A is of appropriate length such that X can bind to formula 1 the residues of the 5-

carboxylate of 2OG as discussed above under the heading Inhibitors Exploiting the 2OG binding sites.

More generally bi-substrate inhibitors of FIH can have the formula:

X [B]-[C]

where X is as defined above, B is a linker group and C is an entity binding to part of the CAD binding site of FIH, in general $CONH_2$.

B is typically a polymethylene group, generally having 6 to 8 carbon atoms or an equivalent group where one or more of the carbon atoms is replaced by a heteroatom, notably O, S or N and can be functionalised, for example with thiol, alcohol, carboxylate, hydroxamic acid or oxalate to mediate Fe binding. It is preferably 6 to 8 carbon atoms long or its equivalent. Alternatively, B is a linking group which possesses a ring, preferably of 5 to 7 members to which C is attached.

Inhibitors that bind to the 2OG binding site or part thereof and the peptide substrate

Another class of inhibitors bind to the enzyme-substrate complex, i.e. to FIH.Fe(II).HIF(CAD). The structural analyses enable the identification of such inhibitors. As described above 2OG and CAD binding sites are linked to each other via a 'channel' extending from the 2-oxo group of 2OG (or NOG) to the beta-carbon of Asn-803 in the FIH.Fe.2OG/NOG.HIF(CAD) complexes.

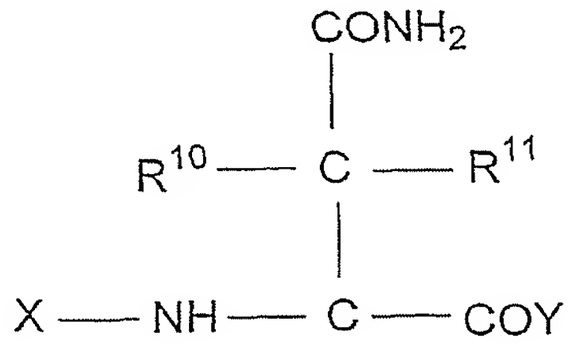
Inhibitors of this type may be defined as X-[B]-[E] where X is as defined above, B is a linker group such as defined above and E is an entity binding to part of the CAD when bound to HIF. E may bind to the backbone carbonyl oxygen of Asn-803 of CAD and to the NH_2 group of the primary amide of Asn-803.

Mechanism based inhibitors

Another class of inhibitors is based upon substrate analogues that can undergo part of the catalytic cycle but either stall at an intermediate stage or cause an aberrant reaction resulting in damage or inhibition. The observation that FIH catalyses hydroxylation of Asn-803 at the beta-position together with the structural analyses enables the design of such inhibitors. Such compounds include analogues of the

substrates (inhibitors) in which Asn-803 is replaced with an analogue which does not undergo oxidation such as beta-fluoro- asparagine, beta-di-fluoro- asparagine, beta-methyl- asparagine, beta-dimethyl- asparagine derivatives. Alternatively derivatives that undergo oxidation to give an agent that can be oxidised to give an inactivating group such as an epoxide or metal chelating group may prepared (such mechanism based inhibitors are sometimes referred to as suicide inhibitors). In the case of FIH they include alpha-beta-dehydroasparagine and beta-methylene asparagine.

These include a compound having the formula



wherein X represents a valine residue or an analogue thereof and Y represents an alanine residue or an analogue thereof, R^{10} is fluorine or C_1 - C_3 alkyl, especially methyl, and R^{11} is fluorine, C_1 - C_3 alkyl or hydrogen i.e. the specified residue is β-mono- or di-fluoroasparagine or β-mono- or di-methylasparagine.

Alternatively, the compound above may be desaturated, i.e. is an alpha/beta dehydroamino acid (R^{11} not present) or R^{10} and R^{11} may be replaced by a methylene group, i.e. the residue is α, β-dehydro-asparagine or β-methylene asparagine.

If desired the valine residue is connected to one or more units of the peptide DESGLPQLTSYDCE - in the order given e.g. to glutamic acid (E) alone or to, for aspartic acid (D) - cysteine (C) - glutamic acid (E)-, or a longer chain such as PQLTSYDCE -.

For the compounds of this invention suitable aryl rings include phenyl and napthalenyl, which may be further functionalised or fused to other ring systems. Suitable heterocyclic rings include thiophene, pyridine, quinoline, isoquinoline, pyrimidine, pyrazine, pyrone, chromone, coumarin, indole, isoindole, indolizine, benzofuran, pyridazine, purine, oxazole, pyrazole, isothiazole, pyrrolidine,

piperidine, indoline, benzothiaphen, morpholine, benzimidazole, azepine, azacine, azoine, oxepine, oxocine, oxoine, piperazine, oxazine, thiazine, thiepine, thiocine, thioine, furan, imidazole, azole, diazole, triazole and tetrazole ring systems that may be functionalised or fused to other ring systems.

The said alkyl and aryl groups and chains are typically functionalised by alcohol, fluorine, thiol, a carboxylic acid, phosphonic or phosphinic acid, sulphonic acid or other chelating group, in the case of the chains typically via an alkyl group. In the formulae described herein, a branched or straight C_1 to C_6 alkyl chain may be a methyl, ethyl, propyl, butyl, iso-butyl, *tert*-butyl, pentyl, neopentyl, *tert*-pentyl or a primary, secondary or tertiary hexyl group. Preferably the alkyl groups are methyl, the preferred heterocyclic rings are pyrolidine and tetrahydropyran and the preferred aromatic rings are benzene, naphthalene and pyridine.

The compounds which are acids can be present in the form of salts, such as sodium salts.

The crystal structure of FIH also allows identification of those residues involved in asparaginyl hydroxylase activity of FIH. The crystal structures may therefore be used to design modified FIH, for example, which has reduced or no asparaginyl hydroxylase activity, for example, by mutation of critical residue within the active site. In the alternative, those residues involved in substrate binding can be identified and modified, for example, to allow the asparaginyl hydroxylase to accept other substrates than HIF. For example, by enlarging or decreasing the asparagine binding pocket. Such modified asparaginyl hydroxylases can then be produced using standard techniques. The expected activity can then be assayed as described in more detail below, for example, to identify whether the hydroxylase activity with respect to HIF has been reduced or removed, or alternatively, to assess the asparaginyl activity or binding in respect to other substrates.

Compounds which have been identified in accordance with the present invention can be further analysed in assays to monitor for activity of the asparagine hydroxylase enzyme directly. Agents which inhibit or reduce HIF asparagine hydroxylase activity reduce hydroxylation of HIF-α and lead to an increase in the interaction with P300 and in particular the CH1 domain and thus transcriptional activation. This in turn will lead to the activation of systemic local defences against

hypoxia or ischaemia that may include the promotion of angiogenesis, erythropoesis, energy metabolism, inflammation, vasomotor function and will also affect apoptotic/proliferative responses.

We describe below in more detail a number of different assays that may be carried out to assay the activity of modulators of HIF hydroxylase activity or of FIH identified in accordance with the present invention and in particular of asparagine hydroxylase activity, or which affect regulation of HIF-α interaction with p300 in a cell and hence which affect HIF mediated activity. Some of these assays utilise HIF polypeptides, and HIF asparagine hydroxylases. Typically, the assays may utilise a human HIF asparagine hydroxylase such as FIH or a fragment or variant of a human HIF asparagine hydroxylase. These components are described in more detail below. Each of these components, where required, may be provided either in purified or unpurified form, for example, as cellular extracts or by purification of the relevant component from such extracts. Alternatively, the relevant component can be expressed using recombinant expression techniques and purified for use in the assay. Alternatively, the components may be expressed recombinantly in a cell for use in cell based assays.

Typically, a polynucleotide encoding the relevant component is provided within an expression vector. Such expression vectors are routinely constructed in the art and may for example involve the use of plasmid DNA and appropriate initiators, promoters, enhancers and other elements, such as for example polyadenylation signals which may be necessary and which are positioned in the correct orientation in order to allow full protein expression. Suitable vectors would be very readily apparent to those of skill in the art, such as those described in more detail herein with reference to the HIF hydroxylases. Promoter sequences may be inducible or constitutive promoters depending on the selected assay format. The promoter may be tissue specific. Examples of promoters and other flanking sequences for use in the expression vectors are described in more detail herein with reference to the HIF hydroxylases of the invention and in particular to the human HIF hydroxylases.

HIF Polypeptides and Peptide Analogues

The assays of the present invention may use a substrate of a HIF asparagine hydroxylase and in particular an asparagine containing substrate of the enzyme. In particular, such substrates may be used in assays to monitor for the activity of a modulator of HIF asparagine hydroxylase activity. The substrate may be a HIF polypeptide or peptide analogue thereof. Typically, a HIF polypeptide will be used as the substrate.

Any suitable substrate in which an asparagine residue is hydroxylated by a FIH may be used. In preferred embodiments of the invention, such a substrate is a HIF polypeptide such as a HIF-1α or HIF-2α subunit protein or fragment of either or peptide analogue of the subunit or fragment. Preferably, the HIF-α peptide conveys an oxygen regulated response. Preferably, the HIF-α peptide has a CAD domain and is capable of oxygen regulated interaction with p300 and downstream transcriptional activation. Preferably, such HIF-α peptides are capable of interacting with the p300 CH1 domain. Preferably, such HIF polypeptides, fragments or peptide analogues incorporate an asparagine residue equivalent to Asn 803 defined with reference to HIF-1α. The asparagine equivalent to Asn 803 of HIF-1α may be determined by aligning the HIF variant, fragment or analogue to the sequence of HIF-1α to obtain the best sequence alignment and identifying thereby the asparagine equivalent to Asn 803 of HIF-1α.

A HIF polypeptide may be of eukaryotic origin, in particular a human or other mammalian, HIF-α subunit protein or fragment thereof. Alternatively, the polypeptide may be of *C. elegans* origin. In those assays which monitor for hydroxylation of HIF-α through its interaction with p300, the HIF polypeptide has the ability to bind to a wild type full length p300 protein or a fragment thereof comprising the CH1 domain. Preferably, such binding is able, in a hypoxic cellular environment, to activate transcription.

A number of HIFα subunit proteins have been cloned. These include HIF-1α, the sequence of which is available as Genbank accession number U22431, HIF-2α, available as Genbank accession number U81984 and HIF-3α, available as Genbank accession numbers AC007193 and AC079154. These are all human HIF α subunit proteins and all may be used in the invention. HIF-α subunit proteins from

other species, including murine HIF-1α (accession numbers AF003695, U59496 and X95580), rat HIF-1α (accession number Y09507), murine HIF-2α (accession numbers U81983 and D89787) and murine HIF-3α (accession number AF060194) may also be used in the invention.

One HIF-α protein of particular interest is the *C.elegans* HIF-α subunit protein. The *C.elegans* system may be used in assays of the present invention.

There are a number of common structural features found in the two HIF-α subunit proteins identified to date. Some of these features are identified in O'Rourke *et al* (1999, J. Biol. Chem., 274; 2060-2071) and may be involved in the trans-activation functions of the HIF-α subunit proteins. One or more of these common structural features are preferred features of the HIF polypeptides.

Variants of the above HIF-α subunits may be used, such as synthetic variants which have at least 45% amino acid identity to a naturally occurring HIF-α subunit (particularly to a human HIF-α subunit such as, for example HIF-1α), preferably at least 50%, 60%, 70%, 80%, 90%, 95% or 98% identity. Such variants may include substitutions or modifications as described above with respect to HIF hydroxylases. Amino acid activity may also be calculated as described above with reference to HIF hydroxylases.

HIF fragments may also include non-peptidyl functionalities and may be optimised for assay purposes such that the level of identity is lowered. Such functionalities may be covalently bound such as sugars or non-covalently bound such as metal ions.

HIFα polypeptides as described herein may be fragments of the HIF-α subunit protein or variants as described above, provided that said fragments retain the ability to interact with a wild-type p300 CH1 domain. When using proteinogenic amino acid residues, such fragments are desirably at least 20, preferably at least 40, 50, 75, 100, 200, 250 or 400 amino acids in size. Desirably, such fragments include asparagine 803.

Cell based assays of the present invention may involve upregulation of an endogenous HIF-α or expression of a HIF-α by recombinant techniques and in particular of HIF-1α.

Assay Methods

The present invention provides an assay method for an agent identified as a modulator of asparagine hydroxylation of hypoxia inducible factor. The method comprises contacting a HIF asparagine hydroxylase and a test substance in the presence of a substrate of the hydroxylase under conditions in which asparagine hydroxylation occurs in the absence of the test substrate and determining asparagine hydroxylation of the substrate. In an alternative assay, HIF asparagine hydroxylase and the test substance are contacted in the presence of the substrate of the hydroxylase under conditions in which hydroxylation does not occur in the absence of the test substrate. Determination of any asparagine hydroxylation is monitored to identify whether the agent actively acts as a promoter of asparagine hydroxylase.

FIH has been found to hydroxylate HIF-α at an asparagine residue within the CAD domain. This hydroxylation mediates p300 binding and in particular, reduces p300 binding. Such binding leads to transcriptional activation. This interaction and activation may also be used as the basis for an assay of the invention.

Such assays of the present invention may be used to assay the activity of inhibitors of HIF asparagine hydroxylase activity and are thus preferably carried out under conditions under which asparagine hydroxylation would take place in the absence of the test substance. The assays of the invention may also be used to assay the activity of inhibitors which are specific for HIF asparagine hydroxylases and which do not have activity or are less active with other hydroxylases, for example, such as HIF prolyl hydroxylases or other asparagine/aspartamic acid hydroxylases. The assays of the invention may also be used to assay the activity of hydroxylase modulators, such as HIF prolyl hydroxylase inhibitors which are not expected to have activity on FIH based on structural modelling studies, and hence may be used to identify inhibitors which are specific for prolyl hydroxylase.

Methods for monitoring modulation

The precise format of any of the screening or assay methods of the present invention may be varied by those of skill in the art using routine skill and knowledge. The skilled person is well aware of the need to additionally employ appropriate controlled experiments. The assays of the present invention may involve monitoring

for asparagine hydroxylation of a suitable substrate, monitoring for the utilisation of substrates and co-substrates, monitoring for the production of the expected products between the enzyme and its substrate. Assay methods of the present invention may also involve screening for the direct interaction between components in the system. Alternatively, assays may be carried out which monitor for downstream effects such as binding of HIF by p300 and downstream effects mediated by HIF such as HIF mediated transcription using suitable reporter constructs or by monitoring for the upregulation of genes or alterations in the expression patterns of genes know to be regulated directly or indirectly by HIF.

Various methods for determining hydroxylation are known in the art and are described and exemplified herein. Any suitable method may be used for determining activity of the HIF hydroxylase such as by substrate or co-substrate utilization, product appearance such as peptide hydroxylation or down-stream effects mediated by hydroxylated or non-hydroxylated products.

Assays may be carried out to monitor directly for hydroxylation of the relevant asparagine residue or another position. Alternatively, assays may be carried out to monitor for depletion of co-factors and co-substrates. Alternatively, such assays may monitor the downstream effects of hydroxylation of HIF or indeed inhibition of hydroxylation of HIF, for example, by monitoring the interaction between HIF and p300 or HIF mediated transcription. Alternatively, reporter gene constructs driven by HIF regulated promoters may be used. Assays are also provided for the identification of enhancers of the activity of the HIF asparagine hydroxylase. Such enhancers may be used to reduce HIFα activity.

In one embodiment, a suitable substrate of the HIF asparagine hydroxylase is provided. This may be HIF-α or a fragment thereof which includes a CAD domain or which includes a residue equivalent to Asn 803 of HIF-1α. The substrate may not be initially hydroxylated at the Asn 803 position. This may be achieved by providing synthetic polypeptide substrates, or by producing HIF-α polypeptides in bacterial cells, insect cells or mammalian cells or in *in vitro* transcription and translation systems. Alternatively, assays may be carried out over a selected time course such that the substrate is produced during the course of the assay, initially in un-hydroxylated form.

The substrate, enzyme and potential inhibitor compound may be incubated together under conditions which, in the absence of inhibitor provide for hydroxylation of Asn 803, and the effect of the inhibitor may be determined by determining hydroxylation of the substrate. This may be accomplished by any suitable means. Small polypeptide substrates may be recovered and subject to physical analysis, such as mass spectrometry or chromatography, or to functional analysis, such as the ability to bind to p300 (or displace a reporter molecule from p300). Such methods are known as such in the art and may be practiced using routine skill and knowledge. Determination may be quantitative or qualitative. In both cases, but particularly in the latter, qualitative determination may be carried out in comparison to a suitable control, e.g. a substrate incubated without the potential inhibitor.

Inhibitor compounds which are identified in this manner may be recovered and formulated as pharmaceutical compositions.

Assays in accordance with the present invention may involve monitoring for the interaction between p300 and HIF. The interaction between HIF and p300 is mediated by hydroxylation of HIF. Transcription and expression of genes known to be upregulated or down regulated by the presence of HIF could be monitored. In particular, upregulation of HIF regulated genes would demonstrate inhibition of asparagine hydroxylation whereas down regulation would suggest enhancement or promotion of asparagine hydroxylation.

In alternative embodiments, reporter constructs may be provided in which promoters mediated by HIF are provided operably linked to a reporter gene. Any suitable reporter gene could be used, such as for example enzymes which may then be used in colorometric, fluorometric, fluorescence resonance or spectrometric assays.

HIF asparagine hydroxlase is a 2OG dependent oxygenase. In the assay methods described herein, typically the HIF asparagine hydroxylase and the substrate of the hydroxylase are contacted in the presence of a co-substrate, such as 2-oxoglutarate (2OG). The hydroxylase activity of the HIF hydroxylase may be determined by determining the turnover of the co-substrate. This may be achieved by determining the presence and/or amount of reaction products, such as hydroxylated

substrate or succinic acid. The amount of product may be determined relative to the amount of substrate. Typically, in such embodiments the substrate may be an HIF-α polypeptide and, for example, the product measured may be hydroxylated HIF-α polypeptide.

Alternatively, the end-point determination may be based on conversion of HIFα or peptide fragments (including synthetic and recombinant peptides) derived from HIFα into detectable products. Peptides may be modified to facilitate the assays so that they can be rapidly carried out and may be suitable for high throughput screening.

For example, reverse phase HPLC (C-18 octadecylsilane column), may be used to separate starting synthetic peptide substrates for HIF hydroxylase from the asparagine hydroxylated products, as the latter have a shorter retention time in the column. Modifications of this assay or alternative assays for HIF hydroxylase activity may employ, for example, mass spectrometric, spectroscopic, and/or fluorescence techniques as are well known in the art (Masimirembwa C. *et al* Combinatorial Chemistry & High Throughput Screening (2001) 4 (3) 245-263, Owicki J. (2000) J. Biomol. Screen. 5 (5) 297-305, Gershkovich A *et al* (1996) J. Biochem. & Biophys. Meths. 33 (3) 135-162, Kraaft G. *et al* (1994) Meths. Enzymol. 241 70-86). Fluorescent techniques may employ versions of the substrate modified in such as way as to carry out or optimise spectroscopic or fluorescence assays.

For example, HIFα polypeptide may be immobilised e.g. on a bead or plate, and hydroxylation of the appropriate residue detected using an antibody or other binding molecule which binds the CAD binding domain of HIFα with a different affinity when an asparagine 803 is hydroxylated from when the residue is not hydroxylated. Such antibodies may be obtained by means of standard techniques which are well known in the art, e.g. using a hydroxylated HIFα peptide.

Binding of a molecule which discriminates between the hydroxylated and non-hydroxylated form of a HIFα polypeptide may be assessed using any technique available to those skilled in the art, which may involve determination of the presence of a suitable label.

Assay methods of the present invention may also take the form of an *in vivo* assay. The *in vivo* assay may be performed in a cell line such as a yeast strain in which the relevant polypeptides or peptides are expressed from one or more vectors introduced into the cell.

5

In vivo assays

The assays may be carried out using cell based, organ based or whole animal assays conducted *in vivo*. Such assays may utilize the endogenous expression of the HIF hydroxylase nucleotides and/or polypeptides. In other forms of the invention, upregulation of specific endogenous HIF hydroxylases may be achieved by stimulators of the expression thereof. Such stimulators may be growth factors or chemicals that upregulate specific HIF asparagine hydroxylases. In another form of the assay, nucleotide constructs may be introduced into cells or transgenic animals to increase production of one or more specific HIF asparagine hydroxylases.

HIF complexed with p300 activate hypoxia response elements that are found in the promoters and/or enhancers of endogenous genes that are regulated by the said HIF complexes. Such hypoxia response elements may also be isolated and operationally linked to reporter genes so as to assay the activity of the HIF complex through detection and/or quantitation of the reporter gene or its product. Therefore in a further form of the invention the activity of a HIF-α polypeptide that is regulated by HIF asparagine hydroxylase will be assayed by measuring the effects of the HIF complex on the expression of an endogenous gene or reporter gene that is functionally linked to a HIF binding hypoxia response element. Examples of endogenous genes that are regulated in this way are to be found in the role of the aryl hydrocarbon nuclear translocator (ARNT) in hypoxic induction of gene expression, see for example, Studies in ARNT-deficient cells. S.M. Wood, J.M. Gleadle, C.W. Pugh, O. Hankinson, P.J. Ratcliffe. Journal of Biological Chemistry 271 (1996) 15117-15123, and Hypoxia inducible expression of tumor-associated carbonic anyhydrases, C.C. Wykoff, N.J.P. Beasley, K.J. Turner, J. Pastorek, A. Sibtain. G.D. Wilson, H. Turley, K. Talks, P.H. Maxwell, C.W. Pugh, P.J. Ratcliffe, A.L. Harris. Cancer Research 60 (2000) 7075-7083. Examples include but are not limited to glucose transporter isoform 1, phosphoglycerate kinase-1, carbon anhydrase isoform

9, vascular endothelial growth factor. Each of said genes contains one or hypoxia response elements that may be isolated and operationally linked as single or multiple copies to a reporter gene for the measurement of activity of a HIF-α polypeptide that varies in accordance with the activity of a HIF hydroxylase.

The activity of genes or gene products that are regulated by a HIF-α polypeptide in accordance with the activity of a HIF hydroxylase affects cellular, organ, and animal physiology. Assays that utilise a specific functional response that is regulated in accordance with the activity of a HIF-α polypeptide in accordance with the activity of a HIF hydroxylase may be used. Such responses include the uptake rate of glucose or glucose analogues that are not metabolized, the growth of blood vessels by angiogenesis, the activity of a carbonic anhydrase enzyme. It is recognised that many other responses that operate at a cellular or systemic level are controlled by the activity of a HIF-α polypeptide in accordance with the activity of a HIF hydroxylase and may be utilized as assays of the said HIF hydroxylase activity in further aspects of the invention.

A HIF-α polypeptide that is a substrate for a HIF hydroxylase may be fused to a further polypeptide so as to cause the activity of the said HIF hydroxylase to regulate the activity of the fusion peptide. Accordingly a further form of the invention provides for the assay of the activity of a fusion polypeptide. In the preferred form such a fusion polypeptide may contain the whole of part of a HIF-α polypeptide, particularly including Asn 803, or the CAD domain. The Gal4 DNA binding domain including the amino acids 1-143 together with the Gal binding upstream activating sequence (UAS) is an example of such a transcription factor and cognate DNA response element whose operation can be assayed by those skilled in the art.

Selectivity

It may also be advantageous to modulate HIF asparagine hydroxylase selectively, as a single target, or in selected hydroxylase groups as well as an entire family. Agents which modulate HIF asparagine hydroxylase activity are therefore preferably specific i.e. they have an increased or enhanced effect on a HIF asparagine hydroxylase relative to other 2OG dependent oxygenases.

Assay methods as described herein may therefore further comprise contacting the test compound with one or more 2OG dependent oxygenases under conditions in which said 2OG dependent oxygenases are normally active and determining activity of said oxygenases. A difference in activity in the presence relative to the absence of test compound is indicative of the test compound modulating the activity of the one or more 2OG dependent oxygenases.

A test compound which provides increased or enhanced modulation of a HIF asparagine hydroxylase, relative to the one or more 2OG dependent oxygenases shows selectivity or specificity for the HIF hydroxylase.

2OG dependent oxygenases may include for example, clavaminte synthase, Alk B deacetoxycephalosporin C synthase, collagen-prolyl-4-hydroxylase,collagen prolyl-3-hydroxylase, lysyl hydroxylase, aspartyl hydroxylase, phytanoyl coenzyme A hydroxylase or gamma-butyrobetaine hydroxylase. 2OG dependent oxygenases may be mammalian, preferably human polypeptides.

The invention provides for the use of such selective inhibitors of HIF asparagine hydroxylases in the manufacture of a medicament for the treatment of a condition associated with reduced HIF activity.

Therapeutic Applications

A compound, substance or agent which is found to have the ability to affect the hydroxylase activity of a HIF asparagine hydroxylase, or the compounds referred to herein as FIH inhibitors has therapeutic and other potential in a number of contexts. For therapeutic treatment, such a compound may be used in combination with any other active substance, e.g. for anti-tumour therapy another anti-tumour compound or therapy, such as radiotherapy or chemotherapy.

An agent identified using one or more primary screens (e.g. in a cell-free system) as having ability to modulate the HIFα asparagine hydroxylation activity of a HIF hydroxylase may be assessed further using one or more secondary screens. A secondary screen may involve testing for an increase or decrease in the amount of HIF-α or HIF activity, for example as manifest by the level of a HIF target gene or process present in a cell in the presence of the agent relative to the absence of the agent.

A HIF hydroxylase or a HIF polypeptide may be used in therapies which include treatment with full length polypeptides or fragments thereof, or otherwise modified polypeptides (e.g. to enhance stability or ensure targeting, including in conjunction with other active agents such as antibodies. For example, mutation of HIF-1α to replace Asn 803 with another amino acid residue may prevent hydroxylation and thus promote interaction of HIF-α with p300 and stimulate transcriptional activation.

Generally, an agent, compound or substance which is a modulator according to the present invention is provided in an isolated and/or purified form, i.e. substantially pure. This may include being in a composition where it represents at least about 90% active ingredient, more preferably at least about 95%, more preferably at least about 98%. Any such composition may, however, include inert carrier materials or other pharmaceutically and physiologically acceptable excipients, such as those required for correct delivery, release and/or stabilisation of the active agent. Typically, the concentration in such compositions is 0.1 to 50%, generally 0.5 to 20%, especially 1 to 10% by weight based on the weight of the composition. As noted below, a composition according to the present invention may include in addition to an modulator compound as disclosed, one or more other molecules of therapeutic use, such as an anti-tumour agent.

Products obtained by assays of the invention

The invention further provides compounds obtained or identified by methods of the present invention, and compositions comprising said compounds, such as pharmaceutical compositions wherein the compound is in a mixture with a pharmaceutically acceptable carrier or diluent. The carrier may be liquid, e.g. saline, ethanol, glycerol and mixtures thereof, or solid, e.g. in the form of a tablet, or in a semi-solid form such as a gel formulated as a depot formulation or in a transdermally administerable vehicle, such as a transdermal patch.

The invention further provides a method of treatment which includes administering to a patient an agent which interferes with the hydroxylation of the asparagine target residue of an HIFα polypeptide by a HIF hydroxylase. Such agents may include inhibitors of asparagine hydroxylase activity. The invention also

provides a method of treatment which includes administering to a patient a compound as defined above.

The therapeutic/prophylactic purpose may be related to the treatment of a condition associated with reduced or suboptimal or increased HIF levels or activity, or conditions in which have normal HIF levels, but where an modulation in HIF activity such as an increase or decrease in HIF activity is desirable such as:

(i) ischaemic conditions, for example organ ischaemia, including coronary, cerebrovascular and peripheral vascular insufficiency. The therapy may be applied in two ways; following declared tissue damage, e.g. myocardial infarction (in order to limit tissue damage), or prophylactically to prevent ischaemia, e.g. promotion of coronary collaterals in the treatment of angina.

(ii) wound healing and organ regeneration

(iii) auto-, allo-, and xeno- transplantation.

(iv) systemic blood pressure

(v) cancer; HIFα is commonly up-regulated in tumour cells and has major effects on tumour growth and angiogenesis.

(vi) inflammatory disorders.

(vii) pulmonary arterial blood pressure, neurodegenerative disease.

Modulating HIF prolyl hydroxylase activity in a person, an organ, or a group of cells may be exploited in different ways to obtain a therapeutic benefit:

(a) Non cell autonomous: The HIF system is used by cells to influence the production of substances which signal to other cells. These signals may then have effects at (i) a distant site (for example erythropoietin acts on the bone marrow) or (ii) locally (angiogenic growth factors increase the local formation of blood vessels). Manipulating non cell autonomous behaviour via altering hydroxylase activity is therefore useful in the treatment of anaemia, and local ischaemia, for example in the eye, brain, heart and limbs. Many other signals that are involved in aspects of physiological homeostasis may be, or are known to be, adjusted by HIF activation. Consequently altering HIF prolyl hydroxylase activity may be used to potentiate or initiate a helpful response for a therapeutic benefit, or to prevent or ameliorate a harmful response. For example, this approach can be used to alter appetite, or blood pressure in the systemic or pulmonary beds.

(b) Cell autonomous: the HIF system is also used by cells to regulate cellular metabolism, and decisions concerning differentiation, proliferation and apoptosis. Therefore manipulating the HIF system can be used to alter the viability and behaviour of cells. An increase in cell viability can be achieved by increasing HIF activation, for example in an ischaemic tissue. This approach can also be used in improving pancreatic beta cell viability as a way of ameliorating diabetes, or of improving the viability or function of a group or groups of neurons in Parkinson's disease, motorneurone disease or forms of dementia. In a different approach, the HIF signal can be manipulated to prevent a group of cells proliferating, or to promote its death or differentiation. For example transient activation of the HIF system in a malignant tumour can be used to provoke death of a substantial number of tumour cells.

Pharmaceutical Compositions

In various further aspects, the present invention thus provides a pharmaceutical composition, medicament, drug or other composition for such a purpose, the composition comprising one or more agents, compounds or substances as described herein, including HIF asparagine hydroxylase inhibitors, or one or more compounds of formula (A) to (F) or derivatives thereof, the use of such a composition in a method of medical treatment, a method comprising administration of such a composition to a patient, e.g. for treatment(which may include preventative treatment) of a medical condition as described above, use of such an agent compound or substance in the manufacture of a composition, medicament or drug for administration for any such purpose, e.g. for treatment of a condition as described herein, and a method of making a pharmaceutical composition comprising admixing such an agent, compound or substance with a pharmaceutically acceptable excipient, vehicle or carrier, and optionally other ingredients.

In one embodiment the method for providing a pharmaceutical composition may typically comprise:

(a) identifying an agent in accordance with the invention; and

(b) formulating the agent thus identified with a pharmaceutically acceptable excipient.

The agent may be used as sole active agent or in combination with one another or with any other active substance, e.g. for anti-tumour therapy another anti-tumour compound or therapy, such as radiotherapy or chemotherapy.

Whatever the agent used in a method of medical treatment of the present invention, administration is preferably in a "prophylactically effective amount" or a "therapeutically effective amount" (as the case may be, although prophylaxis may be considered therapy), this being sufficient to show benefit to the individual. The actual amount administered, and rate and time-course of administration, will depend on the nature and severity of what is being treated. Prescription of treatment, e.g. decisions on dosage etc, is within the responsibility of general practitioners and other medical doctors.

An agent or composition may be administered alone or in combination with other treatments, either simultaneously or sequentially dependent upon the condition to be treated, e.g. as described above.

Pharmaceutical compositions according to the present invention, and for use in accordance with the present invention, may include, in addition to active ingredient, a pharmaceutically acceptable excipient, carrier, buffer, stabiliser or other materials well known to those skilled in the art. In particular they may include a pharmaceutically acceptable excipient. Such materials should be non-toxic and should not interfere with the efficacy of the active ingredient. The precise nature of the carrier or other material will depend on the route of administration, which may be oral, or by injection, e.g. cutaneous, subcutaneous or intravenous. The compositions will typically be sterile.

Pharmaceutical compositions for oral administration may be in tablet, capsule, powder or liquid form. A tablet may include a solid carrier such as gelatin or an adjuvant. Liquid pharmaceutical compositions generally include a liquid carrier such as water, petroleum, animal or vegetable oils, mineral oil or synthetic oil. Physiological saline solution, dextrose or other saccharide solution or glycols such as ethylene glycol, propylene glycol or polyethylene glycol may be included.

For intravenous, cutaneous or subcutaneous injection, or injection at the site of affliction, the active ingredient will be in the form of a parenterally acceptable aqueous solution which is pyrogen-free and has suitable pH, isotonicity and stability.

Those of relevant skill in the art are well able to prepare suitable solutions using, for example, isotonic vehicles such as Sodium Chloride Injection, Ringer's Injection, Lactated Ringer's Injection. Preservatives, stabilisers, buffers, antioxidants and/or other additives may be included, as required.

Liposomes, particularly cationic liposomes, may be used in carrier formulations. Examples of techniques and protocols mentioned above can be found in Remington's Pharmaceutical Sciences, 16th edition, Osol, A. (ed), 1980.

The substance or composition may be administered in a localised manner to a particular site or may be delivered in a manner in which it targets particular cells or tissues, for example using intra-arterial stent based delivery.

Targeting therapies may be used to deliver the active substance more specifically to certain types of cell, by the use of targeting systems such as antibody or cell specific ligands. Targeting may be desirable for a variety of reasons, for example if the agent is unacceptably toxic, or if it would otherwise require too high a dosage, or if it would not otherwise be able to enter the target cells.

In a further embodiment the invention provides for the use of an agent of the invention in the manufacture of a medicament for the treatment of a condition associated with increased or decreased HIF levels or activity. The condition may, for example, be selected from the group consisting of ischaemia, wound healing, auto-. allo-, and xeno- transplantation, systemic high blood pressure, cancer, and inflammatory disorders.

Examples

Example 1

The position on Asn803 of human HIF-1α that is hydroxylated was identified as described in the following. cDNA sequences encoding FIH-1 were cloned into the pET28a(+) vector (from Novagen) to yield FIH-1 protein with an N-terminal His_6tag to facilitate purification. Purification of crude material by nickel affinity chromatography, followed by thrombin cleavage of the His_6 tag, and size exclusion chromatography (Superdex S75) yielded >95% pure protein by SDS-PAGE analysis. Mass spectrometry confirmed the identity of the isolated species. The 19-residue

peptide comprising amino acids 788-806 of human HIF-1α was modified by aerobic incubation with FIH-1 FIH (Hewitson et al., J BIOL CHEM 277 (29): 26351-26355, 2002) in the presence of ascorbate, DTT, catalase, 2-oxoglutarate, and iron(II) for 30 minutes at 37°C. The reaction was quenched by cooling to 4°C and addition of an equal volume of methanol. Precipitate was removed by centrifugation and the supernatant purified by HPLC using a Jupiter C4 column (15cm x 4.6mm). Peptide was eluted using a gradient of acetonitrile in 0.1% trifluoroacetic acid, freeze-dried from the HPLC solvent for amino acid and mass spectrometric analyses. The sample was freeze-dried a second time from D_2O in preparation for NMR analysis.

Catalytic FIH-1 mediated hydroxylation of a synthetic 19 residue peptide corresponding to residues 788-806 of HIF-1α was confirmed by mass spectrometric analysis of HPLC purified material: Native peptide 19mer $[M+2H]^{2+}$ = 1026.67Da, modified peptide 19mer $[M+2H]^{2+}$ = 1034.61Da, a mass difference of +8Da of the doubly charged ions, corresponding to +16Da in the peptide (oxygen). N-Terminal Edman degradation of the product peptide gave the following sequence: DESGLPQLTSYDCEVxA, where x was not asparagine. The peak from this (16th) cycle of Edman degradation ran to a similar position as the β-hydroxyasparagine standard. Acid hydrolysis of the modified peptide followed by amino acid analysis showed the presence of β-hydroxyaspartic acid only.

Both ^{1}H and ^{13}C chemical shift changes between the 19mer peptide substrate and the HPLC purified incubation product were assessed by 2D ^{1}H-^{13}C HSQC experiments. In the substrate a grouping of four β-CH_2 resonances were assigned as belonging to Asp-1, Tyr-11, Asp-12 and Asn-16 according to their ^{1}H and ^{13}C shifts (Evans, J. N. S. (1995) Biomolecular NMR Spectroscopy, Oxford University Press, Oxford, UK). In the product it was clear from both the 2D HSQC and the 1D proton spectra that only three of these four resonances are present. Comparison of the two spectra indicates that the signal assigned to the Asn-16 β-carbon (at δH 2.813 and 2.695ppm and δC 37.40ppm in the substrate) has disappeared, consistent with hydroxylation of the asparagine residue at its β-carbon. The resonances due to the two aspartic acid residues had shifted slightly, presumably due to changes in the protonation state, and now occur at a similar ^{1}H chemical shift as the β-protons of the

asparagine in the substrate. A difference in the oxidation state of the cysteine between the two samples in unlikely given the near identical chemical shifts for the cysteinyl β-carbon and hydrogens. The change from a double doublet to a single doublet for the β-hydrogen of the hydroxylated residue also rules out any possibility the observed alterations in the NMR spectrum are due to aggregation. Two new resonances have appeared in the product spectrum at δH 4.913 ppm and δC 56.26 ppm and at δH 4.654 ppm and δC 72.22 ppm. These resonances correlate with one another in the 2D COSY spectrum and share a ^{1}H-^{1}H coupling constant of 2.4 Hz and are therefore assigned as the CH^{α}-CH^{β} of the hydroxylated asparagine. The appearance of these resonances also coincides with the disappearance of the δH 4.706 ppm and δC 51.43 ppm resonances observed in the substrate spectra, which is therefore assigned as the CH^{α} of the parent asparagine prior to modification. Comparison of the CH^{α}-CH^{β} coupling constant of 2.4Hz observed for the hydroxylated Asn-803, with literature values implied the *threo* isomer is produced.

In summary of the above `NMR experiments: The HSQC experiments gave direct evidence for hydroxylation occurring at the β-carbon of the target asparagine, with the hydroxylated β-carbon appearing significantly deshielded (at 72.22 ppm) and the adjacent α-carbon deshielded to a lesser extent (at 56.26 ppm) relative to the parent asparagine. Changes of these magnitudes in the ^{13}C chemical shifts are inconsistent with hydroxylation of the side-chain nitrogen, but consistent with hydroxylation at the β-carbon. Further, the ^{13}C spectrum of free DL-*threo*-β-hydroxyasparagine (this study), has resonances at 58.63ppm and 73.85ppm corresponding to α- and β-carbons. The product assignment is also consistent with ^{1}H-NMR chemical shifts of the α- and β-hydrogens in the β-hydroxyaspartyl residues in EGF-like domains which are 4.48ppm and 4.36ppm respectively (with respect to water at 4.75ppm) when calcium is absent (Selander et al, Biochemistry **29**, 8111-8118). The analysis of the coupling constant reported here suggests that the *threo*-isomer is the one formed on hydroxylation of Asn-803 by FIH-1.

Two reports (Dames et al., (2002) *Proc. Natl. Acad. Sci. U. S. A.* **99**, 52715276; Freedman et al, (2002) *Proc. Natl. Acad. Sci. U. S. A.* **99**, 53675372) reveal how β-hydroxylation of Asn-803 of HIF-1α would be damaging to complex formation with

p300. Although the position of hydroxylation was not identified in either report, both imply that hydroxylation at the *pro-S* position of the β-carbon, *i.e.* to give the *threo (2S, 3S)*-isomer, would interfere with the hydrogen bonding that maintains the α-helical conformation adopted by this part of HIF-1α, and also create a need for the energetically unfavourable desolvation of the hydroxyl group. A steric clash between the inserted *pro-S* hydroxyl group and Ile-353 (numbering from Dames *et a l*(2002) *Proc. Natl. Acad. Sci. U. S. A.* **99**, 52715276) of p300 would disrupt the interaction of the two proteins. Presumably the same mechanism is also used to abrogate the interaction of HIF-2α and p300. The discovery that it is the beta-position of Asn-803 that is modified and the associated mechanistic implications may be used in the design of compounds that bind to p300 thereby displacing HIF-alpha and/in the design of inhibitors of FIH (see below); in both cases to enable pro-angiogenetic pharmaceutical agents.

Example 2

To obtain an FIH:CAD complex suitable for X-ray analysis without oxidation of the CAD or the $Fe^{(II)}$, FIH and various CAD fragments from seven to fifty-two residues were co-crystallised with $Fe^{(II)}$ and 2OG under anaerobic conditions. Structures were also obtained for FIH complexed with $Fe^{(II)}$ and *N*-oxaloylglycine (NOG, an FIH inhibitor), (anaerobically) and $Zn^{(II)}$ and NOG (aerobically). These structures were solved by molecular replacement using a model obtained by multiple anomalous dispersion on selenomethionine-substituted apo-FIH. Crystalline FIH:CAD complexes were obtained with $CAD_{786-826}$, $Fe^{(II)}$ and NOG or 2OG (structures 1 and 2, Table 1), $CAD_{775-826}$ with $Zn^{(II)}$ and NOG (structure 3). Crystallisation attempts with $CAD_{787-806}$, $CAD_{850-862}$ (HIF-2α, equivalent to HIF-1α $CAD_{802-814}$) and $CAD_{800-806}$ did not result in FIH:CAD complexes; solution analyses indicated that CAD fragments shorter than twenty resides are not efficient *in vitro* substrates.

Table 1 Summary of FIH:CAD-fragment complex structures*

Structure No.	Resolution (Å)	Metal	Co-substrate	Co-crystallisation CAD peptide	Site 1 CAD residues resolved	Site 2 CAD residue resolved	R_{free} (%)	R.m.s.d. from Struct. 1 (Å)	PDB ID.
1	2.15	Fe	NOG	HIF-1α 786-826	795-806	812-823	21.3	-	1H2K
2	2.25	Fe	2OG	HIF-1α 786-826	795-806	813-822	21.7	0.149	1H2L
3	2.50	Zn	NOG	HIF-1α 775-826	795-806	813-822	22.5	0.136	1H2M
4	2.84	Fe	2OG	HIF-2α 850-862	-	-	25.7	0.226	1H2N

*Crystalline FIH:CAD complexes were also obtained with $Fe^{(II)}$, HIF-1α 775-786 and 2OG or NOG.

Methods employed in structural work

Protein expression, purification and crystallisation

FIH, $CAD_{775-826}$ and $CAD_{786-826}$ were prepared as described (Hewitson et al., J BIOL CHEM 277 (29): 26351-26355, 2002). Selenomethionine (SeMet) substituted FIH was produced using a metabolic inhibition protocol and LeMaster media supplemented with 50 mg/l L-selenomethionine. SeMet incorporation was >95 % by ESI-MS. Aerobic crystallisation of SeMet FIH (at 11 mg ml^{-1}) was accomplished by hanging-drop vapour diffusion at 17 °C. The mother liquor consisted of 1.2 M ammonium sulphate, 4 % PEG 400 and 0.1 M Hepes pH 7.5. Crystallisation of FIH:Fe:CAD fragment complexes was accomplished under an anaerobic atmosphere of argon in a Belle Technology glove box (0.3-0.4 ppm O_2) using the same mother liquor and a solution containing FIH (at 11 mg ml^{-1}), Fe^{2+} (1 mM), 2OG/NOG (2 mM) and CAD fragment (1 mM). Crystallisation of FIH:Zn:CAD fragment was accomplished aerobically under similar conditions. Peptides were either synthesised by solid phase peptide synthesis or purchased from Biopeptide Co. (San Diego, USA).

Crystallographic data collection and structure refinement

Crystals were cryocooled by plunging into liquid nitrogen and X-ray data were collected at 100 K using a nitrogen stream. Cryoprotection was accomplished by sequential transfer into a solution containing 1.2 M ammonium sulphate, 3 % PEG 400, 0.1 M Hepes pH 7.5 and 10 % followed by 24 % glycerol. A three-wavelength multiple anomalous dispersion (MAD) dataset was collected to 2.9 Å resolution on beamline 14.2 of the Synchrotron Radiation Source, Daresbury, U.K. Data from crystals of FIH:CAD complexes were collected on beamlines 14.2, 9.6 or 9.5 using ADSC Quantum 4 (14.2 and 9.6) or MarCCD detectors (9.5). All data was processed with the program MOSFLM and the CCP4 suite[Collaborative Computational Project Number 4 *Acta Crystallogr.* **D50**, 760-763 (1994)]. The crystals belonged to space group $P4_12_12$. Six selenium positions were located and phases calculated using the program SOLVE (Terwilliger et al. **D55**, 849-861, 1999). Density modification, which increased the figure of merit from 0.56 to 0.66, was performed using RESOLVE (Terwilliger *Acta Crystallogr.* **D56**, 965-972 2000).

An initial model was built using the program O (Jones et al, *Acta Crystallogr.* A47, 110-119, 1991).and refined against the SeMet data (remote wavelength) using the program CNS (Brunger *Acta Crystallogr.* **D54**, 905-921, 1998). . One cycle of simulated annealing followed by grouped *B*-factor refinement brought the R_{free} to 36.2 %. Following further rebuilding and refinement, which brought the R_{free} to 32.3 %, the model was transferred to the 2.15 Å dataset. Rebuilding and refinement using REFMAC5 including addition of Fe, substrate and solvent molecules, and refinement of TLS parameters brought the conventional *R*-factor to 17.8 % and the R_{free} to 21.3 %. The following residues are missing in the current model: 1-15 and 304-306 of FIH, 786-794, 807-811 and 824-826 of the CAD fragment. According to PROCHECK there are no Ramachandran outliers and 90.7 % of residues have most favourable backbone conformations. For the CAD peptide, 77.8% of residues are in the most favourable region with the remaining 22.2 % in additionally allowed regions.

Other structures were solved by molecular replacement using the coordinates from the 2.15 Å data and refinement using REFMAC5. In all structures electron density for the Fe and 2OG/NOG was visible throughout refinement. Significant positive difference electron density was observed between the iron and the CAD Asn803 β-carbon. Since *B*-factor differences between FIH and CAD imply that the CAD is not at 100 % occupancy, this may represent an alternative binding-mode for the 1-carboxylate 2OG in the absence of substrate although it could also be due to a ligating water molecule, again in the absence of substrate.

Overview of FIH structure

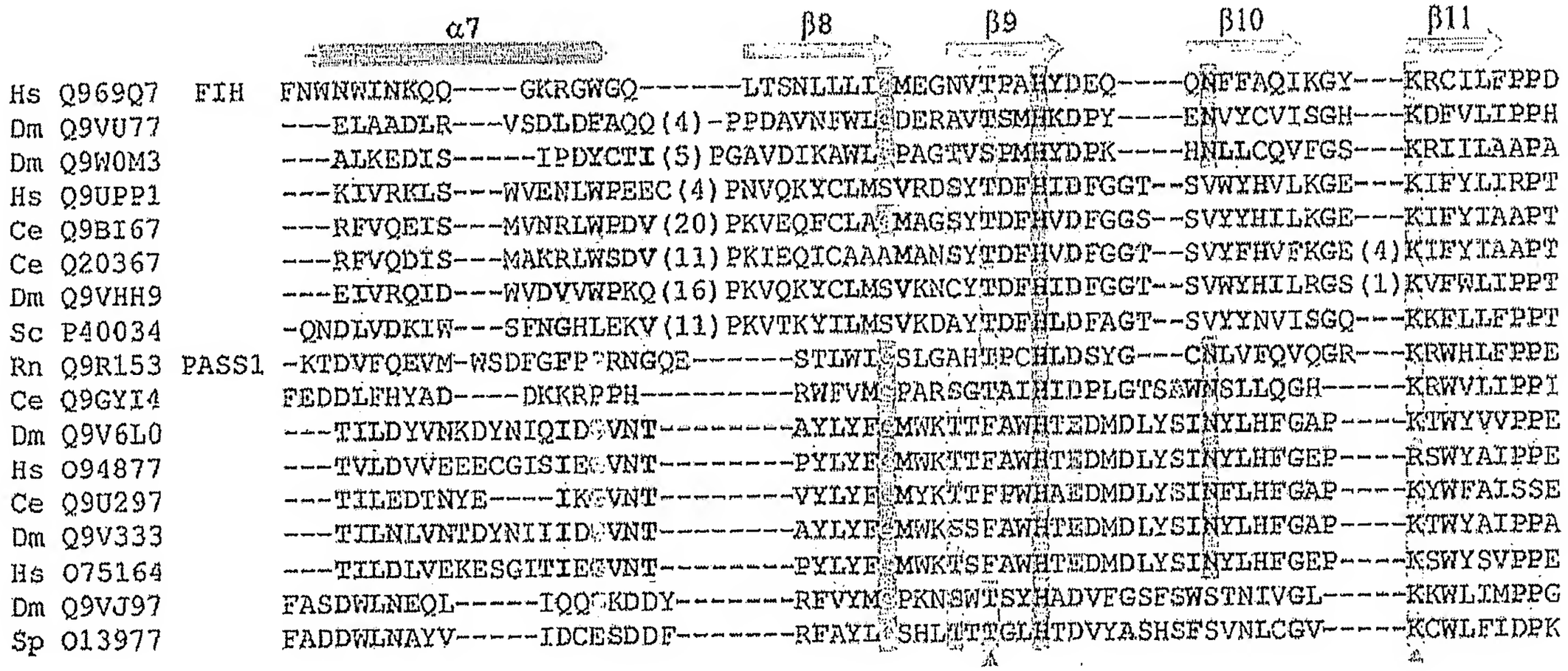
The core of FIH comprises a double-stranded beta-helix (DSBH or jellyroll) motif formed from eight β-strands, β8-β11 and β14-β17. Residues 220-259 form an insert between strands 4 and 5 of the DSBH. The bottom face of the DSBH is flanked by an additional four β-strands from the N-terminal region to form an eight-membered antiparallel β-sheet. The N-terminal strand β1 bisects the face of the DSBH opposite to the active site. The β1 strand has a 360° twist located at a PXXP sequence, in between its interactions with β14 and β2. A similarly positioned β-

strand is found in most 2OG oxygenases, though not always from the same region of the protein. The sheet-helix-sheet motif formed by β1, α1 and β2 is conserved in all enzymes of this class except proline 3-hydroxylase and a similar fold in this region is found in the related $Cu^{(II)}$ utilising quercetin 2,3-dioxygenase (QD) (Fusetti et al, STRUCTURE 10 (2): 259-268 2002). The topology of FIH unequivocally defines it as an iron-binding member of the cupin structural family which already includes QD and $Mn^{(II)}$ utilising Type II phosphomannose isomerase (Clissold, P. M., and Ponting, C. P. (2001) *Trends Biochem. Sci.* **26**, 79).

Related enzymes to FIH

FIH has significant sequence similarity with the JmjC homology region of the jumonji transcription factors (Clissold, P. M., and Ponting, C. P. (2001) *Trends Biochem. Sci.* **26**, 79; Hewitson et al., J BIOL CHEM 277 (29): 26351-26355, 2002). These proteins are members of the cupin structural superfamily and have been implicated in cell growth and heart development. The 2OG oxygenase iron binding residues had been identified in some JmjC domains but not assigned as an iron binding motif. Sequence searches in the light of the FIH structure reveal many JmjC proteins with conserved residues that include both this motif and others, including FIH residues Lys214 and Thr196 that are unusually involved in binding the 5-carboxylate of 2OG. The structure thus reveals that FIH is a one of a large family of iron and 2OG dependent oxygenases involved in the regulation of transcription. Since some of the assigned JmjC domains other than FIH are associated with diseases and particular phenotypes their (e.g.) inhibition may be of therapeutic value. (See e.g. Hu et al, ONCOGENE 20 (47): 6946-6954 OCT 18 2001 and Clissold, P. M., and Ponting, C. P. (2001) *Trends Biochem. Sci.* **26**, 79 and references therein).

Table 2. Partial sequence alignment of FIH with a selection of JmjC domain containing proteins. FIH secondary structure is indicated above the alignment. Selected 2OG binding residues found in FIH are indicated by dark triangles under the alignment and the two iron binding residues by light triangles. SWALL accession numbers are indicated on the left of the alignment.



Hs = Homo sapiens
Dm = Drosophila melanogaster
Ce = Caenorhabditis elegans
Sc = Saccharomyces cerevisiae
Rn = Rattus norvegicus
Sp = Schizosaccharomyces pombe

FIH = Factor Inhibiting HIF
PASS1 = Protein associating with small stress protein

TABLE 2

TABLE 3 - Coordinates for structures 1 to 4

Structure 1

Below are the coordinates for structure 1 (the 2.15 Å structure of FIH:Fe(II):NOG:CAD):

```
HEADER     TRANSCRIPTION ACTIVATOR/INHIBITOR        12-AUG-02   1H2K
TITLE      FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX WITH HIF-1 ALPHA
TITLE     2 FRAGMENT PEPTIDE
COMPND     MOL_ID: 1;
COMPND    2 MOLECULE: FACTOR INHIBITING HIF1;
COMPND    3 CHAIN: A;
COMPND    4 ENGINEERED: YES;
COMPND    5 MOL_ID: 2;
COMPND    6 MOLECULE: HYPOXIA-INDUCIBLE FACTOR 1 ALPHA;
COMPND    7 SYNONYM: HIF-1 ALPHA, ARNT INTERACTING PROTEIN,
COMPND    8  MEMBER OF PAS PROTEIN 1;
COMPND    9 CHAIN: S;
COMPND   10 FRAGMENT: C-TERMINAL TRANSACTIVATION DOMAIN FRAGMENT
COMPND   11  RESIDUES 786-826
SOURCE     MOL_ID: 1;
SOURCE    2 ORGANISM_SCIENTIFIC: HOMO SAPIENS;
SOURCE    3 ORGANISM_COMMON: HUMAN;
SOURCE    4 EXPRESSION_SYSTEM: ESCHERICHIA COLI;
SOURCE    5 EXPRESSION_SYSTEM_STRAIN: BL21(DE3);
SOURCE    6 EXPRESSION_SYSTEM_PLASMID: PET28A(+);
SOURCE    7 MOL_ID: 2;
SOURCE    8 ORGANISM_SCIENTIFIC: HOMO SAPIENS;
SOURCE    9 ORGANISM_COMMON: HUMAN;
SOURCE   10 EXPRESSION_SYSTEM: ESCHERICHIA COLI;
SOURCE   11 EXPRESSION_SYSTEM_STRAIN: BL21(DE3);
SOURCE   12 EXPRESSION_SYSTEM_PLASMID: PGEX-GP-1
KEYWDS     FIH, HIF, DSBH, OXYGENASE, TRANSCRIPTION, HYPOXIA,
KEYWDS    2 2-OXOGLUTARATE, ASPARAGINYL HYDROXYLASE, PHOSPHORYLATION
EXPDTA     X-RAY DIFFRACTION
AUTHOR     J.M.ELKINS,K.S.HEWITSON,L.A.MCNEILL,I.SCHLEMMINGER,
AUTHOR    2 J.F.SEIBEL,C.J.SCHOFIELD
REVDAT    1   03-SEP-02 1H2K    0
JRNL        AUTH   J.M.ELKINS,K.S.HEWITSON,L.A.MCNEILL,
JRNL        AUTH 2 I.SCHLEMMINGER,J.F.SEIBEL,C.J.SCHOFIELD
JRNL        TITL   FIH:HIF-FRAGMENT COMPLEXES
JRNL        REF    TO BE PUBLISHED
JRNL        REFN
REMARK   2
REMARK   2 RESOLUTION. 2.15 ANGSTROMS.
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM      : REFMAC 5.0
REMARK   3   AUTHORS      : MURSHUDOV,VAGIN,DODSON
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   2.15
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  18.50
REMARK   3   DATA CUTOFF              (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.28
REMARK   3   NUMBER OF REFLECTIONS             :   28171
REMARK   3
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REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD                  : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION          : RANDOM
REMARK   3   R VALUE      (WORKING + TEST SET)        : 0.18026
REMARK   3   R VALUE              (WORKING SET)       :  0.17761
REMARK   3   FREE R VALUE                             :  0.21305
REMARK   3   FREE R VALUE TEST SET SIZE   (%)         :  7.7
REMARK   3   FREE R VALUE TEST SET COUNT              :  2340
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED                :       20
REMARK   3   BIN RESOLUTION RANGE HIGH                :    2.150
REMARK   3   BIN RESOLUTION RANGE LOW                 :    2.205
REMARK   3   REFLECTION IN BIN     (WORKING SET)      :     1906
REMARK   3   BIN R VALUE           (WORKING SET)      :    0.222
REMARK   3   BIN FREE R VALUE SET COUNT               :      152
REMARK   3   BIN FREE R VALUE                         :    0.257
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   PROTEIN ATOMS                : 2875
REMARK   3   NUCLEIC ACID ATOMS           : 0
REMARK   3   HETEROGEN ATOMS              : 21
REMARK   3   SOLVENT ATOMS                : 194
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT                (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  25.725
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) :    -0.27
REMARK   3    B22 (A**2) :    -0.27
REMARK   3    B33 (A**2) :     0.55
REMARK   3    B12 (A**2) :     0.00
REMARK   3    B13 (A**2) :     0.00
REMARK   3    B23 (A**2) :     0.00
REMARK   3
REMARK   3 ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3  ESU BASED ON R VALUE                                    (A): 0.174
REMARK   3  ESU BASED ON FREE R VALUE                               (A): 0.156
REMARK   3  ESU BASED ON MAXIMUM LIKELIHOOD                         (A): 0.147
REMARK   3  ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2): 5.588
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.961
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.947
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES      COUNT     RMS     WEIGHT
REMARK   3   BOND LENGTHS REFINED             (A):  2973 ; 0.012 ; 0.021
REMARK   3   BOND LENGTHS OTHERS              (A):  2561 ; 0.001 ; 0.020
REMARK   3   BOND ANGLES REFINED       (DEGREES):  4044 ; 1.374 ; 1.949
REMARK   3   BOND ANGLES OTHERS        (DEGREES):  5979 ; 0.722 ; 3.000
REMARK   3   TORSION ANGLES, PERIOD 1  (DEGREES):   352 ; 4.018 ; 3.000
REMARK   3   TORSION ANGLES, PERIOD 3  (DEGREES):   515 ;17.698 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS     (A**3):   416 ; 0.086 ; 0.200
REMARK   3   GENERAL PLANES REFINED           (A):  3333 ; 0.005 ; 0.020
REMARK   3   GENERAL PLANES OTHERS            (A):   604 ; 0.002 ; 0.020
REMARK   3   NON-BONDED CONTACTS REFINED      (A):   714 ; 0.218 ; 0.300
REMARK   3   NON-BONDED CONTACTS OTHERS       (A):  2499 ; 0.204 ; 0.300
REMARK   3   H-BOND (X...Y) REFINED           (A):   259 ; 0.152 ; 0.500
REMARK   3   H-BOND (X...Y) OTHERS            (A):     4 ; 0.087 ; 0.500
REMARK   3   SYMMETRY VDW REFINED             (A):    18 ; 0.245 ; 0.300
REMARK   3   SYMMETRY VDW OTHERS              (A):    72 ; 0.248 ; 0.300
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REMARK   3   SYMMETRY H-BOND REFINED          (A):     13 ; 0.255 ; 0.500
REMARK   3   SYMMETRY H-BOND OTHERS           (A):      1 ; 0.052 ; 0.500
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS  COUNT   RMS     WEIGHT
REMARK   3   MAIN-CHAIN BOND REFINED    (A**2):  1777 ; 0.618 ; 1.500
REMARK   3   MAIN-CHAIN ANGLE REFINED   (A**2):  2862 ; 1.177 ; 2.000
REMARK   3   SIDE-CHAIN BOND REFINED    (A**2):  1196 ; 1.812 ; 3.000
REMARK   3   SIDE-CHAIN ANGLE REFINED   (A**2):  1182 ; 3.002 ; 4.500
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :     1
REMARK   3
REMARK   3   TLS GROUP :      1
REMARK   3    NUMBER OF COMPONENTS GROUP :     2
REMARK   3    COMPONENTS               C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :    A     15         A    451
REMARK   3    RESIDUE RANGE :    S    795         S    823
REMARK   3    ORIGIN FOR THE GROUP (A):  21.6620  27.4620  28.2370
REMARK   3    T TENSOR
REMARK   3      T11:    0.1474 T22:    0.0149
REMARK   3      T33:    0.0919 T12:   -0.0099
REMARK   3      T13:   -0.0455 T23:    0.0363
REMARK   3    L TENSOR
REMARK   3      L11:    1.0098 L22:    2.2577
REMARK   3      L33:    1.2037 L12:    0.6963
REMARK   3      L13:    0.4840 L23:    1.0420
REMARK   3    S TENSOR
REMARK   3      S11:    0.0288 S12:   -0.1525 S13:   -0.0400
REMARK   3      S21:    0.1459 S22:    0.0002 S23:    0.1021
REMARK   3      S31:    0.1876 S32:   -0.0468 S33:   -0.0290
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED : BABINET MODEL WITH MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :    1.40
REMARK   3   ION PROBE RADIUS   :    0.80
REMARK   3   SHRINKAGE RADIUS   :    0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS: HYDROGENS HAVE BEEN ADDED IN THE
REMARK   3   RIDING POSITIONS
REMARK   4
REMARK   4 1H2K COMPLIES WITH FORMAT V. 2.3, 09-JULY-1998
REMARK 100
REMARK 100 THIS ENTRY HAS BEEN PROCESSED BY EBI  ON 12-AUG-2002.
REMARK 100 THE EBI ID CODE IS EBI-11170.
REMARK 200
REMARK 200 EXPERIMENTAL DETAILS
REMARK 200  EXPERIMENT TYPE                : X-RAY DIFFRACTION
REMARK 200  DATE OF DATA COLLECTION        : 15-MAY-2002
REMARK 200  TEMPERATURE           (KELVIN) : 100
REMARK 200  PH                             : 7.5
REMARK 200  NUMBER OF CRYSTALS USED        : 1
REMARK 200
REMARK 200  SYNCHROTRON              (Y/N) : Y
REMARK 200  RADIATION SOURCE               : SRS BEAMLINE PX9.6
REMARK 200  BEAMLINE                       : PX9.6
REMARK 200  X-RAY GENERATOR MODEL          : NULL
REMARK 200  MONOCHROMATIC OR LAUE    (M/L) : M
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REMARK 200  WAVELENGTH OR RANGE        (A) : 0.87
REMARK 200  MONOCHROMATOR                  : NULL
REMARK 200  OPTICS                         : NULL
REMARK 200
REMARK 200  DETECTOR TYPE                  : CCD
REMARK 200  DETECTOR MANUFACTURER          : ADSC
REMARK 200  INTENSITY-INTEGRATION SOFTWARE : MOSFLM
REMARK 200  DATA SCALING SOFTWARE          : SCALA
REMARK 200
REMARK 200  NUMBER OF UNIQUE REFLECTIONS   : 30574
REMARK 200  RESOLUTION RANGE HIGH      (A) : 2.15
REMARK 200  RESOLUTION RANGE LOW       (A) : 18.17
REMARK 200  REJECTION CRITERIA  (SIGMA(I)) : NONE
REMARK 200
REMARK 200 OVERALL.
REMARK 200  COMPLETENESS FOR RANGE     (%) : 99.2
REMARK 200  DATA REDUNDANCY                : 6.3
REMARK 200  R MERGE                    (I) : 0.052
REMARK 200  R SYM                      (I) : NULL
REMARK 200  <I/SIGMA(I)> FOR THE DATA SET  : 9.9
REMARK 200
REMARK 200 IN THE HIGHEST RESOLUTION SHELL.
REMARK 200  HIGHEST RESOLUTION SHELL, RANGE HIGH (A) : 2.15
REMARK 200  HIGHEST RESOLUTION SHELL, RANGE LOW  (A) : 2.27
REMARK 200  COMPLETENESS FOR SHELL     (%) : 96.0
REMARK 200  DATA REDUNDANCY IN SHELL       : 3.4
REMARK 200  R MERGE FOR SHELL          (I) : 0.331
REMARK 200  R SYM FOR SHELL            (I) : NULL
REMARK 200  <I/SIGMA(I)> FOR SHELL         : 1.5
REMARK 200
REMARK 200 DIFFRACTION PROTOCOL: SINGLE WAVELENGTH
REMARK 200 METHOD USED TO DETERMINE THE STRUCTURE: MAD
REMARK 200 SOFTWARE USED: SOLVE
REMARK 200 STARTING MODEL: NULL
REMARK 200
REMARK 200 REMARK: NULL
REMARK 280
REMARK 280 CRYSTAL
REMARK 280 SOLVENT CONTENT, VS   (%): 63
REMARK 280 MATTHEWS COEFFICIENT, VM (ANGSTROMS**3/DA): 3.4
REMARK 280
REMARK 280 CRYSTALLIZATION CONDITIONS: 1.2M AMMONIUM SULPHATE, 4% PEG400,
REMARK 280  0.1M HEPES PH7.5, ARGON ATMOSPHERE, 11MG/ML PROTEIN WITH
REMARK 280  1MM FE(II), 2.5MM NOG AND 2.5MM PEPTIDE
REMARK 290
REMARK 290 CRYSTALLOGRAPHIC SYMMETRY
REMARK 290 SYMMETRY OPERATORS FOR SPACE GROUP: P 41 21 2
REMARK 290
REMARK 290       SYMOP   SYMMETRY
REMARK 290      NNNMMM   OPERATOR
REMARK 290        1555   X,Y,Z
REMARK 290        2555   -X,-Y,1/2+Z
REMARK 290        3555   1/2-Y,1/2+X,1/4+Z
REMARK 290        4555   1/2+Y,1/2-X,3/4+Z
REMARK 290        5555   1/2-X,1/2+Y,1/4-Z
REMARK 290        6555   1/2+X,1/2-Y,3/4-Z
REMARK 290        7555   Y,X,-Z
REMARK 290        8555   -Y,-X,1/2-Z
REMARK 290
REMARK 290      WHERE NNN -> OPERATOR NUMBER
REMARK 290            MMM -> TRANSLATION VECTOR
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REMARK 290
REMARK 290 CRYSTALLOGRAPHIC SYMMETRY TRANSFORMATIONS
REMARK 290 THE FOLLOWING TRANSFORMATIONS OPERATE ON THE ATOM/HETATM
REMARK 290 RECORDS IN THIS ENTRY TO PRODUCE CRYSTALLOGRAPHICALLY
REMARK 290 RELATED MOLECULES.
REMARK 290   SMTRY1   1  1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY2   1  0.000000  1.000000  0.000000        0.00000
REMARK 290   SMTRY3   1  0.000000  0.000000  1.000000        0.00000
REMARK 290   SMTRY1   2 -1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY2   2  0.000000 -1.000000  0.000000        0.00000
REMARK 290   SMTRY3   2  0.000000  0.000000  1.000000       73.32800
REMARK 290   SMTRY1   3  0.000000 -1.000000  0.000000       43.08050
REMARK 290   SMTRY2   3  1.000000  0.000000  0.000000       43.08050
REMARK 290   SMTRY3   3  0.000000  0.000000  1.000000       36.66400
REMARK 290   SMTRY1   4  0.000000  1.000000  0.000000       43.08050
REMARK 290   SMTRY2   4 -1.000000  0.000000  0.000000       43.08050
REMARK 290   SMTRY3   4  0.000000  0.000000  1.000000      109.99200
REMARK 290   SMTRY1   5 -1.000000  0.000000  0.000000       43.08050
REMARK 290   SMTRY2   5  0.000000  1.000000  0.000000       43.08050
REMARK 290   SMTRY3   5  0.000000  0.000000 -1.000000       36.66400
REMARK 290   SMTRY1   6  1.000000  0.000000  0.000000       43.08050
REMARK 290   SMTRY2   6  0.000000 -1.000000  0.000000       43.08050
REMARK 290   SMTRY3   6  0.000000  0.000000 -1.000000      109.99200
REMARK 290   SMTRY1   7  0.000000  1.000000  0.000000        0.00000
REMARK 290   SMTRY2   7  1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY3   7  0.000000  0.000000 -1.000000        0.00000
REMARK 290   SMTRY1   8  0.000000 -1.000000  0.000000        0.00000
REMARK 290   SMTRY2   8 -1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY3   8  0.000000  0.000000 -1.000000       73.32800
REMARK 290
REMARK 290 REMARK: NULL
REMARK 300
REMARK 300 BIOMOLECULE: 1
REMARK 300 THIS ENTRY CONTAINS THE CRYSTALLOGRAPHIC ASYMMETRIC UNIT
REMARK 300 WHICH CONSISTS OF   2 CHAIN(S). SEE REMARK 350 FOR
REMARK 300 INFORMATION ON GENERATING THE BIOLOGICAL MOLECULE(S).
REMARK 300
REMARK 300 QUATERNARY STRUCTURE FOR THIS ENTRY: TETRAMERIC
REMARK 300
REMARK 300 THE PROTEIN IS A HOMODIMER FORMED BY CHAIN A.
REMARK 300 A HETERODIMERIC ASSOCIATION OF CHAIN A WITH CHAIN S
REMARK 300 PRODUCES A TETRAMER.
REMARK 300
REMARK 300 THE BURIED SURFACE AREA SHOWN BELOW IS AN AVERAGE
REMARK 300 CALCULATED FOR THE HETEROTETRAMER AND DOES NOT
REMARK 300 CORRESPOND TO THE BURIED SURFACE AREA FOR THE
REMARK 300 HOMODIMER OF CHAIN A
REMARK 300
REMARK 300 THE HETERO-ASSEMBLY DESCRIBED BY REMARK 350 APPEARS
REMARK 300 TO BE A CASE OF STRONG CRYSTAL PACKING WITH
REMARK 300 THE MEAN DIFFERENCE IN ACCESSIBLE SURFACE AREA PER
REMARK 300 CHAIN BETWEEN THE ISOLATED CHAIN AND THAT FOR
REMARK 300 THE CHAIN IN THE COMPLEX IS     2203.4 ANGSTROM**2
REMARK 350
REMARK 350 GENERATING THE BIOMOLECULE
REMARK 350 COORDINATES FOR A COMPLETE MULTIMER REPRESENTING THE KNOWN
REMARK 350 BIOLOGICALLY SIGNIFICANT OLIGOMERIZATION STATE OF THE
REMARK 350 MOLECULE CAN BE GENERATED BY APPLYING BIOMT TRANSFORMATIONS
REMARK 350 GIVEN BELOW.  BOTH NON-CRYSTALLOGRAPHIC AND
REMARK 350 CRYSTALLOGRAPHIC OPERATIONS ARE GIVEN.
REMARK 350
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REMARK 350 BIOMOLECULE:  1
REMARK 350 APPLY THE FOLLOWING TO CHAINS: A, S
REMARK 350   BIOMT1    1  1.000000  0.000000  0.000000        0.00000
REMARK 350   BIOMT2    1  0.000000  1.000000  0.000000        0.00000
REMARK 350   BIOMT3    1  0.000000  0.000000  1.000000        0.00000
REMARK 350   BIOMT1    2  0.000000 -1.000000  0.000000       86.16100
REMARK 350   BIOMT2    2 -1.000000  0.000000  0.000000       86.16100
REMARK 350   BIOMT3    2  0.000000  0.000000 -1.000000       73.32800
REMARK 465
REMARK 465 MISSING RESIDUES
REMARK 465 THE FOLLOWING RESIDUES WERE NOT LOCATED IN THE
REMARK 465 EXPERIMENT. (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 465 IDENTIFIER; SSSEQ=SEQUENCE NUMBER; I=INSERTION CODE.)
REMARK 465
REMARK 465   M RES C SSSEQI
REMARK 465     MET A     1
REMARK 465     ALA A     2
REMARK 465     ALA A     3
REMARK 465     THR A     4
REMARK 465     ALA A     5
REMARK 465     ALA A     6
REMARK 465     GLU A     7
REMARK 465     ALA A     8
REMARK 465     VAL A     9
REMARK 465     ALA A    10
REMARK 465     SER A    11
REMARK 465     GLY A    12
REMARK 465     SER A    13
REMARK 465     GLY A    14
REMARK 465     LYS A   304
REMARK 465     ARG A   305
REMARK 465     ILE A   306
REMARK 465     SER S   786
REMARK 465     MET S   787
REMARK 465     ASP S   788
REMARK 465     GLU S   789
REMARK 465     SER S   790
REMARK 465     GLY S   791
REMARK 465     LEU S   792
REMARK 465     PRO S   793
REMARK 465     GLN S   794
REMARK 465     GLN S   807
REMARK 465     GLY S   808
REMARK 465     SER S   809
REMARK 465     ARG S   810
REMARK 465     ASN S   811
REMARK 465     GLN S   824
REMARK 465     VAL S   825
REMARK 465     ASN S   826
REMARK 470
REMARK 470 MISSING ATOM
REMARK 470 THE FOLLOWING RESIDUES HAVE MISSING ATOMS (M=MODEL NUMBER;
REMARK 470 RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE NUMBER;
REMARK 470 I=INSERTION CODE):
REMARK 470   M RES CSSEQI  ATOMS
REMARK 470     GLU A  15    CG   CD   OE1  OE2
REMARK 470     GLU A  29    CG   CD   OE1  OE2
REMARK 470     ASN A  87    CG   OD1  ND2
REMARK 470     LYS A 106    CD   CE   NZ
REMARK 470     LYS A 115    CG   CD   CE   NZ
REMARK 470     ARG A 117    CG   CD   NE   CZ   NH1  NH2
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REMARK 470      GLN A 133    CG    CD    OE1   NE2
REMARK 470      GLN A 136    CG    CD    OE1   NE2
REMARK 470      GLN A 137    CG    CD    OE1   NE2
REMARK 470      ARG A 156    CG    CD    NE    CZ    NH1   NH2
REMARK 470      LYS A 157    CD    CE    NZ
REMARK 470      LYS A 311    CG    CD    CE    NZ
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND ANGLES
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 500 IDENTIFIER; SSEQ=SEQUENCE NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,A3,1X,A1,I4,A1,3(1X,A4,2X),12X,F5.1)
REMARK 500
REMARK 500 EXPECTED VALUES: ENGH AND HUBER, 1991
REMARK 500
REMARK 500  M RES CSSEQI ATM1   ATM2   ATM3
REMARK 500    ASN A  84   N   -  CA  -  C    ANGL. DEV. =    9.3 DEGREES
REMARK 500
REMARK 500 REMARK: NULL
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND LENGTHS
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD AND BY MORE THAN 0.150 ANGSTROMS (M=MODEL
REMARK 500 NUMBER; RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE
REMARK 500 NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,A3,1X,A1,I4,A1,1X,2(A4,A1,3X),12X,F5.3)
REMARK 500
REMARK 500 EXPECTED VALUESS: ENGH AND HUBER, 1991
REMARK 500
REMARK 500  M RES CSSEQI ATM1   RES CSSEQI ATM2   DEVIATION
REMARK 500    MET A 343  SD     MET A 343  CE      -0.249
REMARK 500
REMARK 500 REMARK: NULL
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: CLOSE CONTACTS IN SAME ASYMMETRIC UNIT
REMARK 500
REMARK 500 THE FOLLOWING ATOMS ARE IN CLOSE CONTACT.
REMARK 500
REMARK 500  ATM1   RES C  SSEQI   ATM2   RES C  SSEQI          DISTANCE
REMARK 500
REMARK 500   O     GLN A   209     O     HOH Z   108             2.20
REMARK 525
REMARK 525 SOLVENT
REMARK 525
REMARK 525 THE SOLVENT MOLECULES ARE GIVEN CHAIN IDENTIFIERS TO
REMARK 525 INDICATE THE PROTEIN CHAIN TO WHICH THEY ARE MOST CLOSELY
REMARK 525 ASSOCIATED WITH:
REMARK 525   PROTEIN CHAIN  SOLVENT CHAIN
REMARK 525     A              Z
REMARK 525     S              H
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REMARK 525
REMARK 525 THE FOLLOWING SOLVENT MOLECULES LIE FARTHER THAN EXPECTED
REMARK 525 FROM THE PROTEIN OR NUCLEIC ACID MOLECULE AND MAY BE
REMARK 525 ASSOCIATED WITH A SYMMETRY RELATED MOLECULE (M=MODEL
REMARK 525 NUMBER; RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE
REMARK 525 NUMBER; I=INSERTION CODE):
REMARK 525
REMARK 525 THESE MOLECULES CAN BE PLACED WITHIN  5.00 ANGSTROM OF THE
REMARK 525 OBSERVED OLIGOMER BY APPLYING THE SYMMETRY TRANSFORMATION
REMARK 525 INDICATED.
REMARK 525
REMARK 525  M RES CSSEQI      ORIGINAL COORDINATES    SYMMETRY TRANS.     DIST.
REMARK 525                      X       Y       Z
REMARK 525  1 HOH W 531    12.359  41.757  15.368     005       545       2.38
REMARK 525  1 HOH W 609    10.971  45.216  18.991     005       545       3.25
REMARK 525  1 HOH W 576    42.075  52.163  47.994     008       665       2.28
REMARK 525  1 HOH W 687    28.879   5.577  12.106     005       555       2.82
REMARK 525  1 HOH W 674    24.396  12.792   8.360     005       555       3.20
REMARK 525  1 HOH W 543    27.797   7.178  14.664     005       555       2.83
REMARK 525  1 HOH W 607    26.874  53.406  28.524     008       665       2.97
REMARK 600
REMARK 600 HETEROGEN
REMARK 600
REMARK 600 FOR METAL ATOM FE   FE2 A1350  THE COORDINATION ANGLES ARE:
REMARK 600  1 HIS   199A  NE2
REMARK 600  2 ASP   201A  OD2       104.0
REMARK 600  3 HIS   279A  NE2        85.8  88.0
REMARK 600  4 OGA  1351A  O2        163.5  92.4  96.8
REMARK 600  5 OGA  1351A  O2'        86.4 168.8  97.0  77.1
REMARK 600                            1     2     3     4
REMARK 700
REMARK 700 SHEET
REMARK 700 THE SHEET STRUCTURE OF THIS MOLECULE IS BIFURCATED. IN
REMARK 700 ORDER TO REPRESENT THIS FEATURE IN THE SHEET RECORDS BELOW,
REMARK 700 TWO SHEETS ARE DEFINED.
REMARK 800
REMARK 800 SITE
REMARK 800 SITE_IDENTIFIER: FE1
REMARK 800 SITE_DESCRIPTION: FE BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: OGA
REMARK 800 SITE_DESCRIPTION: OGA BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: SO1
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: SO2
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 900
REMARK 900 RELATED ENTRIES
REMARK 900 RELATED ID: 1D7G   RELATED DB: PDB
REMARK 900  A MODEL FOR THE COMPLEX BETWEEN THE
REMARK 900  HYPOXIA-INDUCIBLE FACTOR-1 (HIF-1) AND ITS
REMARK 900   CONSENSUS DEOXYRIBONUCLEIC ACID SEQUENCE
REMARK 900 RELATED ID: 1H2L   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1H2M   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1H2N   RELATED DB: PDB
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REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1L8C   RELATED DB: PDB
REMARK 900  STRUCTURAL BASIS FOR HIF-1ALPHA/CBP
REMARK 900  RECOGNITION IN THECELLULAR HYPOXIC RESPONSE
REMARK 900 RELATED ID: 1LM8   RELATED DB: PDB
REMARK 900  STRUCTURE OF A HIF-1A-PVHL-ELONGINB-
REMARK 900  ELONGINC COMPLEX
REMARK 900 RELATED ID: 1LQB   RELATED DB: PDB
REMARK 900  CRYSTAL STRUCTURE OF A HYDROXYLATED HIF-1
REMARK 900  ALPHA PEPTIDEBOUND TO THE PVHL/ELONGIN-C/
REMARK 900  ELONGIN-B COMPLEX
DBREF  1H2K A    1   349  SWS    Q969Q7   Q969Q7             1    349
DBREF  1H2K S  786   826  SWS    Q16665   HIFA_HUMAN       786    826
SEQRES   1 A  349  MET ALA ALA THR ALA ALA GLU ALA VAL ALA SER GLY SER
SEQRES   2 A  349  GLY GLU PRO ARG GLU GLU ALA GLY ALA LEU GLY PRO ALA
SEQRES   3 A  349  TRP ASP GLU SER GLN LEU ARG SER TYR SER PHE PRO THR
SEQRES   4 A  349  ARG PRO ILE PRO ARG LEU SER GLN SER ASP PRO ARG ALA
SEQRES   5 A  349  GLU GLU LEU ILE GLU ASN GLU GLU PRO VAL VAL LEU THR
SEQRES   6 A  349  ASP THR ASN LEU VAL TYR PRO ALA LEU LYS TRP ASP LEU
SEQRES   7 A  349  GLU TYR LEU GLN GLU ASN ILE GLY ASN GLY ASP PHE SER
SEQRES   8 A  349  VAL TYR SER ALA SER THR HIS LYS PHE LEU TYR TYR ASP
SEQRES   9 A  349  GLU LYS LYS MET ALA ASN PHE GLN ASN PHE LYS PRO ARG
SEQRES  10 A  349  SER ASN ARG GLU GLU MET LYS PHE HIS GLU PHE VAL GLU
SEQRES  11 A  349  LYS LEU GLN ASP ILE GLN GLN ARG GLY GLY GLU GLU ARG
SEQRES  12 A  349  LEU TYR LEU GLN GLN THR LEU ASN ASP THR VAL GLY ARG
SEQRES  13 A  349  LYS ILE VAL MET ASP PHE LEU GLY PHE ASN TRP ASN TRP
SEQRES  14 A  349  ILE ASN LYS GLN GLN GLY LYS ARG GLY TRP GLY GLN LEU
SEQRES  15 A  349  THR SER ASN LEU LEU LEU ILE GLY MET GLU GLY ASN VAL
SEQRES  16 A  349  THR PRO ALA HIS TYR ASP GLU GLN GLN ASN PHE PHE ALA
SEQRES  17 A  349  GLN ILE LYS GLY TYR LYS ARG CYS ILE LEU PHE PRO PRO
SEQRES  18 A  349  ASP GLN PHE GLU CYS LEU TYR PRO TYR PRO VAL HIS HIS
SEQRES  19 A  349  PRO CYS ASP ARG GLN SER GLN VAL ASP PHE ASP ASN PRO
SEQRES  20 A  349  ASP TYR GLU ARG PHE PRO ASN PHE GLN ASN VAL VAL GLY
SEQRES  21 A  349  TYR GLU THR VAL VAL GLY PRO GLY ASP VAL LEU TYR ILE
SEQRES  22 A  349  PRO MET TYR TRP TRP HIS HIS ILE GLU SER LEU LEU ASN
SEQRES  23 A  349  GLY GLY ILE THR ILE THR VAL ASN PHE TRP TYR LYS GLY
SEQRES  24 A  349  ALA PRO THR PRO LYS ARG ILE GLU TYR PRO LEU LYS ALA
SEQRES  25 A  349  HIS GLN LYS VAL ALA ILE MET ARG ASN ILE GLU LYS MET
SEQRES  26 A  349  LEU GLY GLU ALA LEU GLY ASN PRO GLN GLU VAL GLY PRO
SEQRES  27 A  349  LEU LEU ASN THR MET ILE LYS GLY ARG TYR ASN
SEQRES   1 S   41  SER MET ASP GLU SER GLY LEU PRO GLN LEU THR SER TYR
SEQRES   2 S   41  ASP CYS GLU VAL ASN ALA PRO ILE GLN GLY SER ARG ASN
SEQRES   3 S   41  LEU LEU GLN GLY GLU GLU LEU LEU ARG ALA LEU ASP GLN
SEQRES   4 S   41  VAL ASN
HET    FE2  A1350       1
HET    OGA  A1351      10
HET    SO4  A1352       5
HET    SO4  A1353       5
HETNAM     FE2 FE (II) ION
HETNAM     OGA N-OXALYOLGLYCINE
HETNAM     SO4 SULFATE ION
FORMUL   3  FE2    FE1 2+
FORMUL   4  OGA    C4 H5 N1 O5
FORMUL   5  SO4    2(O4 S1 2-)
FORMUL   6  HOH   *194(H2 O1)
HELIX    1   1 ASP A   28  LEU A   32  5                                   5
HELIX    2   2 ASP A   49  ASN A   58  1                                  10
HELIX    3   3 VAL A   70  TRP A   76  5                                   7
HELIX    4   4 ASP A   77  ILE A   85  1                                   9
HELIX    5   5 ASP A  104  GLN A  112  5                                   9
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HELIX    6   6 LYS A  124  ARG A  138  1                                          15
HELIX    7   7 GLY A  155  GLY A  164  1                                          10
HELIX    8   8 ASN A  166  GLY A  178  1                                          13
HELIX    9   9 PRO A  220  ASP A  222  5                                           3
HELIX   10  10 GLN A  223  TYR A  228  1                                           6
HELIX   11  11 PHE A  252  VAL A  258  5                                           7
HELIX   12  12 LYS A  311  GLY A  331  1                                          21
HELIX   13  13 ASN A  332  GLN A  334  5                                           3
HELIX   14  14 GLU A  335  LYS A  345  1                                          11
HELIX   15  15 GLN S  814  ASP S  823  1                                          10
SHEET    1  AA 5 THR A  39   PRO A  41   0
SHEET    2  AA 5 GLY A 260   VAL A 265   1  O  GLY A 260   N  ARG A  40
SHEET    3  AA 5 LYS A 214   PHE A 219  -1  O  LYS A 214   N  VAL A 265
SHEET    4  AA 5 TRP A 278   SER A 283  -1  O  TRP A 278   N  PHE A 219
SHEET    5  AA 5 VAL A 195   HIS A 199  -1  O  THR A 196   N  ILE A 281
SHEET    1  AB 6 ARG A  44   LEU A  45   0
SHEET    2  AB 6 VAL A  62   LEU A  64   1  O  VAL A  63   N  LEU A  45
SHEET    3  AB 6 VAL A 270   ILE A 273  -1  O  VAL A 270   N  LEU A  64
SHEET    4  AB 6 GLN A 203   LYS A 211  -1  O  ASN A 205   N  ILE A 273
SHEET    5  AB 6 THR A 290   LYS A 298  -1  O  ILE A 291   N  ILE A 210
SHEET    6  AB 6 LEU A 182   SER A 184  -1  N  THR A 183   O  TRP A 296
SHEET    1  AC 9 ARG A  44   LEU A  45   0
SHEET    2  AC 9 VAL A  62   LEU A  64   1  O  VAL A  63   N  LEU A  45
SHEET    3  AC 9 VAL A 270   ILE A 273  -1  O  VAL A 270   N  LEU A  64
SHEET    4  AC 9 GLN A 203   LYS A 211  -1  O  ASN A 205   N  ILE A 273
SHEET    5  AC 9 THR A 290   LYS A 298  -1  O  ILE A 291   N  ILE A 210
SHEET    6  AC 9 LEU A 186   GLY A 190  -1  O  LEU A 186   N  ASN A 294
SHEET    7  AC 9 ARG A 143   THR A 149  -1  O  LEU A 146   N  ILE A 189
SHEET    8  AC 9 PHE A  90   ALA A  95  -1  O  SER A  91   N  GLN A 147
SHEET    9  AC 9 SER A 118   MET A 123  -1  O  ASN A 119   N  SER A  94
LINK         FE   FE2 A1350                 NE2 HIS A 199     1555   1555  2.12
LINK         FE   FE2 A1350                 OD2 ASP A 201     1555   1555  2.05
LINK         FE   FE2 A1350                 NE2 HIS A 279     1555   1555  2.08
LINK         FE   FE2 A1350                 O2  OGA A1351     1555   1555  2.13
LINK         FE   FE2 A1350                 O2' OGA A1351     1555   1555  2.17
CISPEP   1 TYR A  308    PRO A  309          0        -1.09
SITE     1 FE1  3 HIS A 199  ASP A 201  HIS A 279
SITE     1 OGA 11 TYR A 145  THR A 196  HIS A 199  ASP A 201
SITE     2 OGA 11 ASN A 205  PHE A 207  LYS A 214  HIS A 279
SITE     3 OGA 11 ILE A 281  ASN A 294  TRP A 296
SITE     1 SO1  4 ARG A 138  GLY A 140  GLU A 141  GLU A 142
SITE     1 SO2  5 ARG A 143  GLU A 192  GLY A 193  LEU A 285
SITE     2 SO2  5 ASN A 286
CRYST1   86.161   86.161  146.656  90.00  90.00  90.00 P 41 21 2      8
ORIGX1      1.000000  0.000000  0.000000        0.00000
ORIGX2      0.000000  1.000000  0.000000        0.00000
ORIGX3      0.000000  0.000000  1.000000        0.00000
SCALE1      0.011606  0.000000  0.000000        0.00000
SCALE2      0.000000  0.011606  0.000000        0.00000
SCALE3      0.000000  0.000000  0.006819        0.00000
ATOM      1  N   GLU A  15       8.429  32.653   9.844  1.00 50.99           N
ATOM      2  CA  GLU A  15       7.077  32.034   9.723  1.00 51.05           C
ATOM      3  C   GLU A  15       7.166  30.582  10.163  1.00 50.79           C
ATOM      4  O   GLU A  15       8.052  29.857   9.730  1.00 51.18           O
ATOM      5  CB  GLU A  15       6.570  32.124   8.296  1.00 51.20           C
ATOM      6  N   PRO A  16       6.254  30.150  11.022  1.00 50.50           N
ATOM      7  CA  PRO A  16       6.301  28.781  11.549  1.00 50.12           C
ATOM      8  C   PRO A  16       6.265  27.737  10.438  1.00 49.56           C
ATOM      9  O   PRO A  16       5.471  27.827   9.503  1.00 49.32           O
ATOM     10  CB  PRO A  16       5.049  28.701  12.429  1.00 50.27           C
ATOM     11  CG  PRO A  16       4.734  30.135  12.770  1.00 50.58           C
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ATOM	12	CD	PRO	A	16	5.108	30.911	11.548	1.00	50.56	C
ATOM	13	N	ARG	A	17	7.133	26.746	10.550	1.00	48.83	N
ATOM	14	CA	ARG	A	17	7.219	25.695	9.550	1.00	48.33	C
ATOM	15	C	ARG	A	17	5.967	24.832	9.561	1.00	47.48	C
ATOM	16	O	ARG	A	17	5.245	24.782	10.557	1.00	47.64	O
ATOM	17	CB	ARG	A	17	8.421	24.798	9.835	1.00	48.61	C
ATOM	18	CG	ARG	A	17	9.776	25.511	9.835	1.00	49.21	C
ATOM	19	CD	ARG	A	17	10.944	24.577	10.196	1.00	49.84	C
ATOM	20	NE	ARG	A	17	10.918	24.137	11.596	1.00	50.12	N
ATOM	21	CZ	ARG	A	17	11.455	24.809	12.623	1.00	50.99	C
ATOM	22	NH1	ARG	A	17	12.065	25.979	12.431	1.00	50.40	N
ATOM	23	NH2	ARG	A	17	11.381	24.310	13.857	1.00	50.81	N
ATOM	24	N	GLU	A	18	5.723	24.153	8.446	1.00	46.05	N
ATOM	25	CA	GLU	A	18	4.603	23.246	8.329	1.00	45.06	C
ATOM	26	C	GLU	A	18	5.096	21.830	8.607	1.00	44.00	C
ATOM	27	O	GLU	A	18	6.101	21.405	8.044	1.00	43.89	O
ATOM	28	CB	GLU	A	18	4.013	23.324	6.923	1.00	45.21	C
ATOM	29	CG	GLU	A	18	3.323	24.648	6.621	1.00	45.56	C
ATOM	30	CD	GLU	A	18	1.951	24.780	7.265	1.00	45.64	C
ATOM	31	OE1	GLU	A	18	1.342	23.749	7.641	1.00	44.14	O
ATOM	32	OE2	GLU	A	18	1.480	25.932	7.388	1.00	45.83	O
ATOM	33	N	GLU	A	19	4.396	21.113	9.484	1.00	42.49	N
ATOM	34	CA	GLU	A	19	4.734	19.728	9.795	1.00	41.55	C
ATOM	35	C	GLU	A	19	4.357	18.817	8.635	1.00	39.79	C
ATOM	36	O	GLU	A	19	3.266	18.933	8.066	1.00	39.13	O
ATOM	37	CB	GLU	A	19	4.010	19.256	11.052	1.00	41.88	C
ATOM	38	CG	GLU	A	19	4.420	19.997	12.311	1.00	44.80	C
ATOM	39	CD	GLU	A	19	4.276	19.155	13.574	1.00	49.28	C
ATOM	40	OE1	GLU	A	19	3.759	18.008	13.497	1.00	51.52	O
ATOM	41	OE2	GLU	A	19	4.695	19.643	14.656	1.00	52.76	O
ATOM	42	N	ALA	A	20	5.270	17.910	8.311	1.00	38.00	N
ATOM	43	CA	ALA	A	20	5.099	16.952	7.227	1.00	36.77	C
ATOM	44	C	ALA	A	20	3.803	16.168	7.373	1.00	35.56	C
ATOM	45	O	ALA	A	20	3.445	15.734	8.460	1.00	35.74	O
ATOM	46	CB	ALA	A	20	6.283	15.999	7.180	1.00	36.63	C
ATOM	47	N	GLY	A	21	3.082	16.020	6.279	1.00	34.05	N
ATOM	48	CA	GLY	A	21	1.860	15.242	6.307	1.00	33.24	C
ATOM	49	C	GLY	A	21	0.666	16.137	6.551	1.00	32.36	C
ATOM	50	O	GLY	A	21	-0.393	15.673	6.951	1.00	30.93	O
ATOM	51	N	ALA	A	22	0.867	17.432	6.323	1.00	32.41	N
ATOM	52	CA	ALA	A	22	-0.184	18.425	6.459	1.00	32.78	C
ATOM	53	C	ALA	A	22	-0.723	18.441	7.873	1.00	33.14	C
ATOM	54	O	ALA	A	22	-1.915	18.605	8.088	1.00	32.74	O
ATOM	55	CB	ALA	A	22	-1.304	18.139	5.462	1.00	32.61	C
ATOM	56	N	LEU	A	23	0.151	18.253	8.849	1.00	34.01	N
ATOM	57	CA	LEU	A	23	-0.297	18.275	10.232	1.00	34.91	C
ATOM	58	C	LEU	A	23	-0.342	19.694	10.757	1.00	35.27	C
ATOM	59	O	LEU	A	23	-0.528	19.918	11.943	1.00	35.72	O
ATOM	60	CB	LEU	A	23	0.565	17.366	11.097	1.00	35.27	C
ATOM	61	CG	LEU	A	23	0.384	15.910	10.653	1.00	36.36	C
ATOM	62	CD1	LEU	A	23	1.211	14.947	11.491	1.00	37.75	C
ATOM	63	CD2	LEU	A	23	-1.077	15.523	10.719	1.00	37.98	C
ATOM	64	N	GLY	A	24	-0.177	20.656	9.855	1.00	35.73	N
ATOM	65	CA	GLY	A	24	-0.332	22.053	10.194	1.00	35.66	C
ATOM	66	C	GLY	A	24	0.901	22.655	10.804	1.00	36.08	C
ATOM	67	O	GLY	A	24	1.945	22.001	10.913	1.00	36.05	O
ATOM	68	N	PRO	A	25	0.764	23.894	11.253	1.00	35.96	N
ATOM	69	CA	PRO	A	25	1.896	24.628	11.804	1.00	36.12	C
ATOM	70	C	PRO	A	25	2.327	23.980	13.108	1.00	36.32	C
ATOM	71	O	PRO	A	25	1.488	23.577	13.914	1.00	36.08	O
ATOM	72	CB	PRO	A	25	1.341	26.047	12.043	1.00	36.15	C

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ATOM     73  CG  PRO A  25      -0.162  25.942  11.982  1.00 35.84           C
ATOM     74  CD  PRO A  25      -0.504  24.638  11.350  1.00 36.22           C
ATOM     75  N   ALA A  26       3.632  23.848  13.285  1.00 36.64           N
ATOM     76  CA  ALA A  26       4.178  23.274  14.499  1.00 37.19           C
ATOM     77  C   ALA A  26       3.860  24.172  15.706  1.00 36.77           C
ATOM     78  O   ALA A  26       3.595  23.678  16.808  1.00 37.19           O
ATOM     79  CB  ALA A  26       5.672  23.099  14.347  1.00 37.52           C
ATOM     80  N   TRP A  27       3.848  25.479  15.484  1.00 35.62           N
ATOM     81  CA  TRP A  27       3.520  26.420  16.543  1.00 35.04           C
ATOM     82  C   TRP A  27       3.029  27.729  15.933  1.00 34.20           C
ATOM     83  O   TRP A  27       2.992  27.883  14.723  1.00 33.57           O
ATOM     84  CB  TRP A  27       4.774  26.672  17.382  1.00 35.28           C
ATOM     85  CG  TRP A  27       5.951  26.889  16.511  1.00 34.67           C
ATOM     86  CD1 TRP A  27       6.761  25.930  15.955  1.00 35.52           C
ATOM     87  CD2 TRP A  27       6.426  28.135  16.033  1.00 34.40           C
ATOM     88  NE1 TRP A  27       7.723  26.522  15.172  1.00 35.09           N
ATOM     89  CE2 TRP A  27       7.541  27.877  15.209  1.00 34.23           C
ATOM     90  CE3 TRP A  27       6.038  29.452  16.232  1.00 34.31           C
ATOM     91  CZ2 TRP A  27       8.255  28.879  14.592  1.00 35.79           C
ATOM     92  CZ3 TRP A  27       6.750  30.442  15.629  1.00 36.35           C
ATOM     93  CH2 TRP A  27       7.847  30.154  14.808  1.00 36.47           C
ATOM     94  N   ASP A  28       2.638  28.672  16.766  1.00 33.77           N
ATOM     95  CA  ASP A  28       2.259  29.970  16.249  1.00 33.48           C
ATOM     96  C   ASP A  28       2.759  31.050  17.165  1.00 32.26           C
ATOM     97  O   ASP A  28       3.210  30.791  18.276  1.00 32.05           O
ATOM     98  CB  ASP A  28       0.749  30.080  16.037  1.00 34.30           C
ATOM     99  CG  ASP A  28      -0.026  29.986  17.317  1.00 36.29           C
ATOM    100  OD1 ASP A  28      -0.184  31.027  18.002  1.00 39.59           O
ATOM    101  OD2 ASP A  28      -0.517  28.906  17.712  1.00 39.78           O
ATOM    102  N   GLU A  29       2.691  32.268  16.654  1.00 31.30           N
ATOM    103  CA  GLU A  29       3.181  33.465  17.326  1.00 30.15           C
ATOM    104  C   GLU A  29       2.674  33.625  18.752  1.00 28.85           C
ATOM    105  O   GLU A  29       3.407  34.036  19.621  1.00 28.58           O
ATOM    106  CB  GLU A  29       2.791  34.682  16.503  1.00 30.32           C
ATOM    107  N   SER A  30       1.414  33.313  18.992  1.00 27.95           N
ATOM    108  CA  SER A  30       0.845  33.501  20.320  1.00 27.46           C
ATOM    109  C   SER A  30       1.537  32.671  21.389  1.00 26.93           C
ATOM    110  O   SER A  30       1.312  32.907  22.567  1.00 26.79           O
ATOM    111  CB  SER A  30      -0.651  33.168  20.322  1.00 27.23           C
ATOM    112  OG  SER A  30      -0.857  31.764  20.306  1.00 27.69           O
ATOM    113  N   GLN A  31       2.360  31.703  20.984  1.00 26.55           N
ATOM    114  CA  GLN A  31       3.071  30.837  21.926  1.00 26.63           C
ATOM    115  C   GLN A  31       4.419  31.409  22.334  1.00 26.66           C
ATOM    116  O   GLN A  31       5.078  30.855  23.205  1.00 26.45           O
ATOM    117  CB  GLN A  31       3.282  29.426  21.349  1.00 26.41           C
ATOM    118  CG  GLN A  31       1.998  28.637  21.131  1.00 26.28           C
ATOM    119  CD  GLN A  31       2.245  27.287  20.489  1.00 26.25           C
ATOM    120  OE1 GLN A  31       2.258  27.183  19.271  1.00 27.92           O
ATOM    121  NE2 GLN A  31       2.465  26.258  21.305  1.00 24.36           N
ATOM    122  N   LEU A  32       4.824  32.508  21.703  1.00 26.89           N
ATOM    123  CA  LEU A  32       6.083  33.176  22.029  1.00 27.24           C
ATOM    124  C   LEU A  32       5.852  34.321  23.006  1.00 26.92           C
ATOM    125  O   LEU A  32       4.888  35.047  22.868  1.00 26.42           O
ATOM    126  CB  LEU A  32       6.717  33.746  20.760  1.00 27.46           C
ATOM    127  CG  LEU A  32       6.964  32.728  19.640  1.00 28.65           C
ATOM    128  CD1 LEU A  32       7.630  33.391  18.452  1.00 29.44           C
ATOM    129  CD2 LEU A  32       7.792  31.573  20.127  1.00 27.98           C
ATOM    130  N   ARG A  33       6.728  34.472  23.995  1.00 26.71           N
ATOM    131  CA  ARG A  33       6.627  35.596  24.923  1.00 26.77           C
ATOM    132  C   ARG A  33       7.040  36.880  24.209  1.00 26.57           C
ATOM    133  O   ARG A  33       7.719  36.844  23.203  1.00 26.30           O
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ATOM    134  CB  ARG A  33       7.492  35.357  26.163  1.00 26.67           C
ATOM    135  CG  ARG A  33       7.052  34.141  26.983  1.00 26.29           C
ATOM    136  CD  ARG A  33       7.937  33.837  28.181  1.00 25.85           C
ATOM    137  NE  ARG A  33       7.381  32.778  29.018  1.00 25.80           N
ATOM    138  CZ  ARG A  33       6.451  32.946  29.945  1.00 24.68           C
ATOM    139  NH1 ARG A  33       5.937  34.140  30.189  1.00 23.50           N
ATOM    140  NH2 ARG A  33       6.029  31.901  30.637  1.00 25.35           N
ATOM    141  N   SER A  34       6.633  38.020  24.732  1.00 26.80           N
ATOM    142  CA  SER A  34       6.903  39.280  24.061  1.00 27.15           C
ATOM    143  C   SER A  34       7.990  40.048  24.791  1.00 26.39           C
ATOM    144  O   SER A  34       7.964  40.140  26.005  1.00 25.87           O
ATOM    145  CB  SER A  34       5.628  40.104  24.030  1.00 27.68           C
ATOM    146  OG  SER A  34       5.494  40.737  25.285  1.00 32.47           O
ATOM    147  N   TYR A  35       8.944  40.589  24.042  1.00 25.89           N
ATOM    148  CA  TYR A  35      10.110  41.223  24.637  1.00 26.28           C
ATOM    149  C   TYR A  35      10.353  42.558  23.970  1.00 26.85           C
ATOM    150  O   TYR A  35       9.722  42.856  22.967  1.00 26.92           O
ATOM    151  CB  TYR A  35      11.326  40.308  24.510  1.00 25.90           C
ATOM    152  CG  TYR A  35      11.169  39.032  25.309  1.00 25.33           C
ATOM    153  CD1 TYR A  35      10.975  39.073  26.685  1.00 24.99           C
ATOM    154  CD2 TYR A  35      11.198  37.787  24.692  1.00 23.82           C
ATOM    155  CE1 TYR A  35      10.823  37.898  27.429  1.00 24.56           C
ATOM    156  CE2 TYR A  35      11.046  36.620  25.426  1.00 24.42           C
ATOM    157  CZ  TYR A  35      10.862  36.682  26.793  1.00 23.48           C
ATOM    158  OH  TYR A  35      10.696  35.524  27.513  1.00 24.75           O
ATOM    159  N   SER A  36      11.304  43.327  24.496  1.00 27.27           N
ATOM    160  CA  SER A  36      11.525  44.704  24.052  1.00 27.55           C
ATOM    161  C   SER A  36      12.513  44.912  22.917  1.00 27.06           C
ATOM    162  O   SER A  36      12.734  46.049  22.504  1.00 27.94           O
ATOM    163  CB  SER A  36      12.082  45.498  25.226  1.00 27.88           C
ATOM    164  OG  SER A  36      13.350  44.976  25.590  1.00 28.36           O
ATOM    165  N   PHE A  37      13.128  43.851  22.429  1.00 25.35           N
ATOM    166  CA  PHE A  37      14.202  44.014  21.461  1.00 24.62           C
ATOM    167  C   PHE A  37      13.899  43.272  20.159  1.00 24.75           C
ATOM    168  O   PHE A  37      13.130  42.335  20.135  1.00 24.25           O
ATOM    169  CB  PHE A  37      15.487  43.462  22.071  1.00 23.87           C
ATOM    170  CG  PHE A  37      15.318  42.069  22.635  1.00 22.53           C
ATOM    171  CD1 PHE A  37      15.348  40.972  21.802  1.00 21.11           C
ATOM    172  CD2 PHE A  37      15.069  41.872  23.988  1.00 21.63           C
ATOM    173  CE1 PHE A  37      15.158  39.687  22.314  1.00 22.41           C
ATOM    174  CE2 PHE A  37      14.900  40.612  24.505  1.00 22.29           C
ATOM    175  CZ  PHE A  37      14.936  39.509  23.675  1.00 21.45           C
ATOM    176  N   PRO A  38      14.489  43.715  19.067  1.00 24.94           N
ATOM    177  CA  PRO A  38      14.322  43.017  17.793  1.00 24.67           C
ATOM    178  C   PRO A  38      15.267  41.823  17.678  1.00 24.41           C
ATOM    179  O   PRO A  38      16.249  41.745  18.427  1.00 23.73           O
ATOM    180  CB  PRO A  38      14.725  44.072  16.783  1.00 24.75           C
ATOM    181  CG  PRO A  38      15.791  44.872  17.530  1.00 26.09           C
ATOM    182  CD  PRO A  38      15.287  44.950  18.941  1.00 25.27           C
ATOM    183  N   THR A  39      14.981  40.927  16.734  1.00 23.30           N
ATOM    184  CA  THR A  39      15.859  39.816  16.444  1.00 23.42           C
ATOM    185  C   THR A  39      15.857  39.534  14.955  1.00 24.29           C
ATOM    186  O   THR A  39      14.958  39.964  14.239  1.00 24.61           O
ATOM    187  CB  THR A  39      15.368  38.538  17.135  1.00 23.09           C
ATOM    188  OG1 THR A  39      14.044  38.232  16.680  1.00 19.92           O
ATOM    189  CG2 THR A  39      15.213  38.731  18.641  1.00 23.03           C
ATOM    190  N   ARG A  40      16.854  38.773  14.525  1.00 24.43           N
ATOM    191  CA  ARG A  40      16.982  38.273  13.170  1.00 24.91           C
ATOM    192  C   ARG A  40      17.061  36.751  13.268  1.00 24.49           C
ATOM    193  O   ARG A  40      17.434  36.225  14.301  1.00 23.58           O
ATOM    194  CB  ARG A  40      18.253  38.805  12.536  1.00 25.36           C
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ATOM    195  CG  ARG A  40      18.208  40.281  12.248  1.00 30.74           C
ATOM    196  CD  ARG A  40      16.823  40.775  11.890  1.00 34.86           C
ATOM    197  NE  ARG A  40      16.604  40.989  10.477  1.00 39.38           N
ATOM    198  CZ  ARG A  40      15.403  41.229   9.971  1.00 43.86           C
ATOM    199  NH1 ARG A  40      14.345  41.254  10.782  1.00 45.88           N
ATOM    200  NH2 ARG A  40      15.252  41.457   8.674  1.00 44.96           N
ATOM    201  N   PRO A  41      16.687  36.031  12.221  1.00 25.08           N
ATOM    202  CA  PRO A  41      16.715  34.565  12.290  1.00 25.39           C
ATOM    203  C   PRO A  41      18.095  33.913  12.282  1.00 25.10           C
ATOM    204  O   PRO A  41      19.007  34.370  11.636  1.00 25.16           O
ATOM    205  CB  PRO A  41      15.953  34.130  11.023  1.00 25.76           C
ATOM    206  CG  PRO A  41      15.286  35.392  10.504  1.00 26.54           C
ATOM    207  CD  PRO A  41      16.151  36.524  10.939  1.00 24.85           C
ATOM    208  N   ILE A  42      18.225  32.823  13.020  1.00 25.28           N
ATOM    209  CA  ILE A  42      19.388  31.974  12.919  1.00 24.31           C
ATOM    210  C   ILE A  42      19.147  31.116  11.677  1.00 24.68           C
ATOM    211  O   ILE A  42      18.043  30.614  11.466  1.00 24.72           O
ATOM    212  CB  ILE A  42      19.481  31.104  14.163  1.00 24.80           C
ATOM    213  CG1 ILE A  42      19.763  31.993  15.384  1.00 24.24           C
ATOM    214  CG2 ILE A  42      20.530  30.004  13.961  1.00 23.81           C
ATOM    215  CD1 ILE A  42      19.531  31.325  16.729  1.00 23.59           C
ATOM    216  N   PRO A  43      20.146  30.953  10.826  1.00 24.48           N
ATOM    217  CA  PRO A  43      19.963  30.108   9.651  1.00 24.60           C
ATOM    218  C   PRO A  43      19.611  28.650  10.001  1.00 24.85           C
ATOM    219  O   PRO A  43      20.148  28.130  10.989  1.00 24.38           O
ATOM    220  CB  PRO A  43      21.320  30.192   8.937  1.00 24.87           C
ATOM    221  CG  PRO A  43      22.040  31.372   9.541  1.00 25.04           C
ATOM    222  CD  PRO A  43      21.475  31.583  10.886  1.00 24.37           C
ATOM    223  N   ARG A  44      18.686  28.032   9.248  1.00 24.70           N
ATOM    224  CA  ARG A  44      18.367  26.608   9.391  1.00 25.53           C
ATOM    225  C   ARG A  44      18.910  25.943   8.152  1.00 25.00           C
ATOM    226  O   ARG A  44      18.505  26.265   7.030  1.00 24.62           O
ATOM    227  CB  ARG A  44      16.873  26.287   9.452  1.00 26.51           C
ATOM    228  CG  ARG A  44      16.044  27.133  10.378  1.00 29.49           C
ATOM    229  CD  ARG A  44      14.683  26.485  10.813  1.00 31.03           C
ATOM    230  NE  ARG A  44      14.401  25.120  10.323  1.00 32.36           N
ATOM    231  CZ  ARG A  44      14.174  24.057  11.126  1.00 33.85           C
ATOM    232  NH1 ARG A  44      14.239  24.170  12.451  1.00 30.71           N
ATOM    233  NH2 ARG A  44      13.898  22.863  10.613  1.00 35.56           N
ATOM    234  N   LEU A  45      19.815  25.006   8.337  1.00 23.91           N
ATOM    235  CA  LEU A  45      20.500  24.444   7.202  1.00 23.40           C
ATOM    236  C   LEU A  45      20.684  22.967   7.352  1.00 23.52           C
ATOM    237  O   LEU A  45      20.559  22.423   8.446  1.00 22.50           O
ATOM    238  CB  LEU A  45      21.888  25.064   7.093  1.00 22.62           C
ATOM    239  CG  LEU A  45      21.911  26.563   6.819  1.00 23.96           C
ATOM    240  CD1 LEU A  45      23.317  27.111   6.947  1.00 24.52           C
ATOM    241  CD2 LEU A  45      21.366  26.845   5.423  1.00 24.63           C
ATOM    242  N   SER A  46      21.018  22.347   6.227  1.00 23.57           N
ATOM    243  CA  SER A  46      21.382  20.975   6.221  1.00 24.12           C
ATOM    244  C   SER A  46      22.820  20.888   6.668  1.00 24.81           C
ATOM    245  O   SER A  46      23.640  21.757   6.398  1.00 23.76           O
ATOM    246  CB  SER A  46      21.236  20.354   4.830  1.00 23.80           C
ATOM    247  OG  SER A  46      21.744  19.020   4.830  1.00 24.09           O
ATOM    248  N   GLN A  47      23.089  19.804   7.366  1.00 25.92           N
ATOM    249  CA  GLN A  47      24.399  19.444   7.844  1.00 27.25           C
ATOM    250  C   GLN A  47      25.379  19.326   6.674  1.00 27.54           C
ATOM    251  O   GLN A  47      26.563  19.564   6.836  1.00 27.97           O
ATOM    252  CB  GLN A  47      24.245  18.088   8.554  1.00 28.46           C
ATOM    253  CG  GLN A  47      25.487  17.279   8.705  1.00 31.10           C
ATOM    254  CD  GLN A  47      25.776  16.372   7.570  1.00 33.17           C
ATOM    255  OE1 GLN A  47      24.881  15.970   6.803  1.00 36.23           O
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ATOM    256  NE2 GLN A  47      27.041  16.000   7.458  1.00 36.17           N
ATOM    257  N   SER A  48      24.884  18.951   5.498  1.00 27.72           N
ATOM    258  CA  SER A  48      25.736  18.809   4.323  1.00 28.35           C
ATOM    259  C   SER A  48      26.016  20.150   3.629  1.00 28.86           C
ATOM    260  O   SER A  48      26.825  20.235   2.711  1.00 28.96           O
ATOM    261  CB  SER A  48      25.092  17.839   3.324  1.00 28.65           C
ATOM    262  OG  SER A  48      23.798  18.276   2.918  1.00 28.51           O
ATOM    263  N   ASP A  49      25.347  21.203   4.065  1.00 29.16           N
ATOM    264  CA  ASP A  49      25.515  22.496   3.442  1.00 29.28           C
ATOM    265  C   ASP A  49      26.800  23.163   3.913  1.00 29.71           C
ATOM    266  O   ASP A  49      26.981  23.398   5.101  1.00 29.02           O
ATOM    267  CB  ASP A  49      24.325  23.369   3.783  1.00 29.35           C
ATOM    268  CG  ASP A  49      24.316  24.667   3.010  1.00 29.93           C
ATOM    269  OD1 ASP A  49      25.398  25.183   2.666  1.00 28.14           O
ATOM    270  OD2 ASP A  49      23.259  25.247   2.731  1.00 30.49           O
ATOM    271  N   PRO A  50      27.693  23.483   2.976  1.00 30.34           N
ATOM    272  CA  PRO A  50      28.964  24.134   3.315  1.00 30.54           C
ATOM    273  C   PRO A  50      28.783  25.354   4.186  1.00 30.38           C
ATOM    274  O   PRO A  50      29.661  25.651   4.990  1.00 30.53           O
ATOM    275  CB  PRO A  50      29.520  24.573   1.952  1.00 30.39           C
ATOM    276  CG  PRO A  50      28.926  23.667   0.988  1.00 30.96           C
ATOM    277  CD  PRO A  50      27.574  23.243   1.531  1.00 30.51           C
ATOM    278  N   ARG A  51      27.683  26.072   4.008  1.00 30.50           N
ATOM    279  CA  ARG A  51      27.439  27.253   4.817  1.00 30.94           C
ATOM    280  C   ARG A  51      27.341  26.875   6.299  1.00 30.49           C
ATOM    281  O   ARG A  51      27.744  27.646   7.161  1.00 29.74           O
ATOM    282  CB  ARG A  51      26.171  27.979   4.370  1.00 30.97           C
ATOM    283  CG  ARG A  51      26.337  28.781   3.099  1.00 33.47           C
ATOM    284  CD  ARG A  51      25.029  29.321   2.521  1.00 34.80           C
ATOM    285  NE  ARG A  51      24.071  28.252   2.221  1.00 36.68           N
ATOM    286  CZ  ARG A  51      22.766  28.448   2.081  1.00 37.94           C
ATOM    287  NH1 ARG A  51      22.260  29.677   2.208  1.00 39.10           N
ATOM    288  NH2 ARG A  51      21.967  27.436   1.794  1.00 36.51           N
ATOM    289  N   ALA A  52      26.831  25.684   6.596  1.00 30.03           N
ATOM    290  CA  ALA A  52      26.697  25.288   7.993  1.00 29.96           C
ATOM    291  C   ALA A  52      28.079  25.101   8.593  1.00 30.07           C
ATOM    292  O   ALA A  52      28.345  25.518   9.710  1.00 29.00           O
ATOM    293  CB  ALA A  52      25.901  24.028   8.119  1.00 29.81           C
ATOM    294  N   GLU A  53      28.958  24.455   7.845  1.00 30.12           N
ATOM    295  CA  GLU A  53      30.290  24.213   8.347  1.00 31.08           C
ATOM    296  C   GLU A  53      30.999  25.550   8.579  1.00 30.37           C
ATOM    297  O   GLU A  53      31.683  25.730   9.580  1.00 29.89           O
ATOM    298  CB  GLU A  53      31.086  23.362   7.379  1.00 31.41           C
ATOM    299  CG  GLU A  53      32.189  22.603   8.081  1.00 35.02           C
ATOM    300  CD  GLU A  53      31.785  21.185   8.507  1.00 37.87           C
ATOM    301  OE1 GLU A  53      30.614  20.929   8.887  1.00 39.16           O
ATOM    302  OE2 GLU A  53      32.674  20.313   8.463  1.00 40.43           O
ATOM    303  N   GLU A  54      30.811  26.479   7.652  1.00 29.84           N
ATOM    304  CA  GLU A  54      31.413  27.796   7.757  1.00 30.22           C
ATOM    305  C   GLU A  54      30.975  28.486   9.045  1.00 29.05           C
ATOM    306  O   GLU A  54      31.780  29.102   9.719  1.00 28.03           O
ATOM    307  CB  GLU A  54      31.026  28.680   6.573  1.00 30.53           C
ATOM    308  CG  GLU A  54      31.635  28.276   5.243  1.00 34.66           C
ATOM    309  CD  GLU A  54      30.993  29.002   4.058  1.00 38.49           C
ATOM    310  OE1 GLU A  54      30.651  30.208   4.214  1.00 42.20           O
ATOM    311  OE2 GLU A  54      30.829  28.368   2.975  1.00 41.54           O
ATOM    312  N   LEU A  55      29.696  28.366   9.387  1.00 28.24           N
ATOM    313  CA  LEU A  55      29.177  29.029  10.571  1.00 27.28           C
ATOM    314  C   LEU A  55      29.774  28.448  11.827  1.00 26.43           C
ATOM    315  O   LEU A  55      30.212  29.199  12.695  1.00 25.20           O
ATOM    316  CB  LEU A  55      27.655  28.975  10.597  1.00 27.25           C
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ATOM    317  CG  LEU A  55      27.027  29.829   9.502  1.00 27.43           C
ATOM    318  CD1 LEU A  55      25.568  29.452   9.322  1.00 28.83           C
ATOM    319  CD2 LEU A  55      27.173  31.318   9.821  1.00 26.98           C
ATOM    320  N   ILE A  56      29.829  27.116  11.915  1.00 25.75           N
ATOM    321  CA  ILE A  56      30.382  26.473  13.107  1.00 25.50           C
ATOM    322  C   ILE A  56      31.874  26.815  13.254  1.00 26.26           C
ATOM    323  O   ILE A  56      32.346  27.134  14.349  1.00 25.55           O
ATOM    324  CB  ILE A  56      30.192  24.955  13.059  1.00 25.63           C
ATOM    325  CG1 ILE A  56      28.698  24.574  13.034  1.00 24.00           C
ATOM    326  CG2 ILE A  56      30.848  24.321  14.263  1.00 25.48           C
ATOM    327  CD1 ILE A  56      28.439  23.170  12.531  1.00 24.10           C
ATOM    328  N   GLU A  57      32.597  26.781  12.135  1.00 27.04           N
ATOM    329  CA  GLU A  57      34.023  27.082  12.107  1.00 28.01           C
ATOM    330  C   GLU A  57      34.232  28.491  12.625  1.00 28.49           C
ATOM    331  O   GLU A  57      35.183  28.770  13.344  1.00 28.92           O
ATOM    332  CB  GLU A  57      34.561  26.977  10.676  1.00 28.61           C
ATOM    333  CG  GLU A  57      36.053  27.224  10.509  1.00 30.77           C
ATOM    334  CD  GLU A  57      36.902  26.322  11.394  1.00 35.15           C
ATOM    335  OE1 GLU A  57      36.556  25.127  11.591  1.00 37.11           O
ATOM    336  OE2 GLU A  57      37.924  26.818  11.909  1.00 40.88           O
ATOM    337  N   ASN A  58      33.321  29.378  12.270  1.00 28.34           N
ATOM    338  CA  ASN A  58      33.424  30.758  12.701  1.00 28.81           C
ATOM    339  C   ASN A  58      32.770  31.079  14.025  1.00 27.23           C
ATOM    340  O   ASN A  58      32.630  32.233  14.374  1.00 26.07           O
ATOM    341  CB  ASN A  58      32.792  31.641  11.656  1.00 29.66           C
ATOM    342  CG  ASN A  58      33.789  32.386  10.913  1.00 33.61           C
ATOM    343  OD1 ASN A  58      34.280  31.901   9.893  1.00 38.81           O
ATOM    344  ND2 ASN A  58      34.160  33.582  11.429  1.00 36.72           N
ATOM    345  N   GLU A  59      32.343  30.053  14.735  1.00 26.39           N
ATOM    346  CA  GLU A  59      31.712  30.241  16.030  1.00 26.36           C
ATOM    347  C   GLU A  59      30.495  31.144  15.926  1.00 25.39           C
ATOM    348  O   GLU A  59      30.325  32.100  16.668  1.00 24.14           O
ATOM    349  CB  GLU A  59      32.753  30.697  17.059  1.00 26.80           C
ATOM    350  CG  GLU A  59      33.717  29.537  17.316  1.00 29.10           C
ATOM    351  CD  GLU A  59      34.722  29.791  18.407  1.00 32.85           C
ATOM    352  OE1 GLU A  59      35.790  30.330  18.080  1.00 37.47           O
ATOM    353  OE2 GLU A  59      34.466  29.432  19.572  1.00 34.14           O
ATOM    354  N   GLU A  60      29.641  30.799  14.970  1.00 24.88           N
ATOM    355  CA  GLU A  60      28.366  31.465  14.801  1.00 25.20           C
ATOM    356  C   GLU A  60      27.262  30.414  14.822  1.00 24.07           C
ATOM    357  O   GLU A  60      27.420  29.320  14.293  1.00 22.49           O
ATOM    358  CB  GLU A  60      28.343  32.249  13.505  1.00 25.69           C
ATOM    359  CG  GLU A  60      29.354  33.363  13.536  1.00 30.40           C
ATOM    360  CD  GLU A  60      28.962  34.516  12.657  1.00 37.91           C
ATOM    361  OE1 GLU A  60      29.009  34.377  11.414  1.00 38.24           O
ATOM    362  OE2 GLU A  60      28.595  35.566  13.236  1.00 46.50           O
ATOM    363  N   PRO A  61      26.124  30.779  15.386  1.00 22.90           N
ATOM    364  CA  PRO A  61      25.045  29.816  15.571  1.00 22.19           C
ATOM    365  C   PRO A  61      24.448  29.371  14.267  1.00 21.47           C
ATOM    366  O   PRO A  61      24.419  30.104  13.266  1.00 20.48           O
ATOM    367  CB  PRO A  61      23.996  30.583  16.368  1.00 22.29           C
ATOM    368  CG  PRO A  61      24.315  32.053  16.148  1.00 22.67           C
ATOM    369  CD  PRO A  61      25.764  32.140  15.798  1.00 22.92           C
ATOM    370  N   VAL A  62      23.957  28.142  14.283  1.00 20.87           N
ATOM    371  CA  VAL A  62      23.248  27.591  13.146  1.00 20.94           C
ATOM    372  C   VAL A  62      22.353  26.475  13.655  1.00 21.15           C
ATOM    373  O   VAL A  62      22.714  25.761  14.605  1.00 21.21           O
ATOM    374  CB  VAL A  62      24.214  27.052  12.073  1.00 21.30           C
ATOM    375  CG1 VAL A  62      25.061  25.912  12.608  1.00 22.10           C
ATOM    376  CG2 VAL A  62      23.440  26.587  10.825  1.00 21.19           C
ATOM    377  N   VAL A  63      21.158  26.366  13.084  1.00 21.48           N
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ATOM	378	CA	VAL	A	63	20.302	25.231	13.374	1.00	21.87	C
ATOM	379	C	VAL	A	63	20.526	24.212	12.270	1.00	22.00	C
ATOM	380	O	VAL	A	63	20.366	24.528	11.109	1.00	22.54	O
ATOM	381	CB	VAL	A	63	18.793	25.574	13.421	1.00	22.02	C
ATOM	382	CG1	VAL	A	63	17.955	24.277	13.612	1.00	21.90	C
ATOM	383	CG2	VAL	A	63	18.494	26.522	14.546	1.00	21.22	C
ATOM	384	N	LEU	A	64	20.911	23.002	12.643	1.00	22.48	N
ATOM	385	CA	LEU	A	64	21.067	21.902	11.710	1.00	23.08	C
ATOM	386	C	LEU	A	64	19.826	21.014	11.775	1.00	22.19	C
ATOM	387	O	LEU	A	64	19.423	20.558	12.843	1.00	21.85	O
ATOM	388	CB	LEU	A	64	22.327	21.107	12.032	1.00	24.00	C
ATOM	389	CG	LEU	A	64	23.614	21.930	11.984	1.00	27.02	C
ATOM	390	CD1	LEU	A	64	24.791	21.080	12.303	1.00	31.61	C
ATOM	391	CD2	LEU	A	64	23.827	22.540	10.640	1.00	29.86	C
ATOM	392	N	THR	A	65	19.222	20.757	10.628	1.00	21.50	N
ATOM	393	CA	THR	A	65	17.943	20.056	10.613	1.00	21.95	C
ATOM	394	C	THR	A	65	18.022	18.561	10.389	1.00	21.35	C
ATOM	395	O	THR	A	65	17.028	17.870	10.581	1.00	21.37	O
ATOM	396	CB	THR	A	65	17.062	20.592	9.478	1.00	22.08	C
ATOM	397	OG1	THR	A	65	17.725	20.351	8.230	1.00	22.38	O
ATOM	398	CG2	THR	A	65	16.919	22.099	9.553	1.00	24.00	C
ATOM	399	N	ASP	A	66	19.168	18.062	9.961	1.00	21.50	N
ATOM	400	CA	ASP	A	66	19.259	16.650	9.604	1.00	21.86	C
ATOM	401	C	ASP	A	66	20.513	15.899	10.069	1.00	21.61	C
ATOM	402	O	ASP	A	66	21.070	15.088	9.316	1.00	21.82	O
ATOM	403	CB	ASP	A	66	19.152	16.553	8.084	1.00	22.20	C
ATOM	404	CG	ASP	A	66	20.199	17.355	7.390	1.00	21.49	C
ATOM	405	OD1	ASP	A	66	21.065	17.936	8.070	1.00	21.14	O
ATOM	406	OD2	ASP	A	66	20.240	17.477	6.159	1.00	25.40	O
ATOM	407	N	THR	A	67	20.967	16.158	11.287	1.00	21.05	N
ATOM	408	CA	THR	A	67	22.154	15.491	11.768	1.00	20.85	C
ATOM	409	C	THR	A	67	21.858	14.084	12.231	1.00	20.12	C
ATOM	410	O	THR	A	67	22.757	13.281	12.283	1.00	20.45	O
ATOM	411	CB	THR	A	67	22.747	16.207	12.977	1.00	20.77	C
ATOM	412	OG1	THR	A	67	21.782	16.210	14.039	1.00	20.61	O
ATOM	413	CG2	THR	A	67	23.054	17.671	12.682	1.00	22.44	C
ATOM	414	N	ASN	A	68	20.614	13.815	12.618	1.00	19.51	N
ATOM	415	CA	ASN	A	68	20.269	12.555	13.267	1.00	19.09	C
ATOM	416	C	ASN	A	68	21.116	12.349	14.517	1.00	18.40	C
ATOM	417	O	ASN	A	68	21.383	11.212	14.928	1.00	17.67	O
ATOM	418	CB	ASN	A	68	20.455	11.362	12.325	1.00	19.63	C
ATOM	419	CG	ASN	A	68	19.453	11.344	11.209	1.00	19.93	C
ATOM	420	OD1	ASN	A	68	18.253	11.236	11.442	1.00	19.76	O
ATOM	421	ND2	ASN	A	68	19.941	11.423	9.987	1.00	19.96	N
ATOM	422	N	LEU	A	69	21.532	13.448	15.134	1.00	18.28	N
ATOM	423	CA	LEU	A	69	22.378	13.382	16.326	1.00	17.98	C
ATOM	424	C	LEU	A	69	21.773	12.542	17.447	1.00	17.59	C
ATOM	425	O	LEU	A	69	22.478	11.725	18.039	1.00	17.61	O
ATOM	426	CB	LEU	A	69	22.693	14.772	16.844	1.00	18.38	C
ATOM	427	CG	LEU	A	69	23.636	14.859	18.035	1.00	18.31	C
ATOM	428	CD1	LEU	A	69	24.936	14.144	17.744	1.00	20.68	C
ATOM	429	CD2	LEU	A	69	23.907	16.299	18.399	1.00	19.25	C
ATOM	430	N	VAL	A	70	20.489	12.741	17.740	1.00	17.27	N
ATOM	431	CA	VAL	A	70	19.811	11.989	18.794	1.00	17.72	C
ATOM	432	C	VAL	A	70	18.588	11.253	18.257	1.00	18.11	C
ATOM	433	O	VAL	A	70	17.557	11.148	18.927	1.00	17.23	O
ATOM	434	CB	VAL	A	70	19.395	12.866	19.999	1.00	17.54	C
ATOM	435	CG1	VAL	A	70	20.624	13.402	20.704	1.00	19.07	C
ATOM	436	CG2	VAL	A	70	18.451	13.994	19.599	1.00	17.50	C
ATOM	437	N	TYR	A	71	18.715	10.764	17.028	1.00	19.22	N
ATOM	438	CA	TYR	A	71	17.615	10.071	16.367	1.00	19.79	C

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ATOM    439  C   TYR A  71      16.934   9.072  17.306  1.00 19.62           C
ATOM    440  O   TYR A  71      15.726   9.120  17.457  1.00 18.64           O
ATOM    441  CB  TYR A  71      18.082   9.406  15.055  1.00 20.19           C
ATOM    442  CG  TYR A  71      17.156   8.320  14.554  1.00 22.29           C
ATOM    443  CD1 TYR A  71      15.938   8.619  13.948  1.00 25.33           C
ATOM    444  CD2 TYR A  71      17.503   6.986  14.691  1.00 23.31           C
ATOM    445  CE1 TYR A  71      15.080   7.555  13.480  1.00 24.74           C
ATOM    446  CE2 TYR A  71      16.684   5.968  14.252  1.00 23.57           C
ATOM    447  CZ  TYR A  71      15.479   6.244  13.650  1.00 24.07           C
ATOM    448  OH  TYR A  71      14.686   5.159  13.266  1.00 27.86           O
ATOM    449  N   PRO A  72      17.688   8.200  17.960  1.00 20.27           N
ATOM    450  CA  PRO A  72      17.074   7.196  18.840  1.00 21.30           C
ATOM    451  C   PRO A  72      16.307   7.794  20.008  1.00 21.82           C
ATOM    452  O   PRO A  72      15.463   7.120  20.535  1.00 21.13           O
ATOM    453  CB  PRO A  72      18.267   6.377  19.351  1.00 21.33           C
ATOM    454  CG  PRO A  72      19.362   6.650  18.386  1.00 21.75           C
ATOM    455  CD  PRO A  72      19.151   8.065  17.905  1.00 20.71           C
ATOM    456  N   ALA A  73      16.588   9.038  20.391  1.00 22.47           N
ATOM    457  CA  ALA A  73      15.892   9.658  21.522  1.00 23.20           C
ATOM    458  C   ALA A  73      14.567  10.293  21.103  1.00 23.47           C
ATOM    459  O   ALA A  73      13.801  10.765  21.938  1.00 23.46           O
ATOM    460  CB  ALA A  73      16.783  10.718  22.173  1.00 23.27           C
ATOM    461  N   LEU A  74      14.297  10.322  19.808  1.00 23.79           N
ATOM    462  CA  LEU A  74      13.086  10.967  19.329  1.00 24.10           C
ATOM    463  C   LEU A  74      11.797  10.301  19.801  1.00 24.55           C
ATOM    464  O   LEU A  74      10.732  10.903  19.746  1.00 23.83           O
ATOM    465  CB  LEU A  74      13.114  11.076  17.810  1.00 24.16           C
ATOM    466  CG  LEU A  74      14.185  12.061  17.296  1.00 24.67           C
ATOM    467  CD1 LEU A  74      13.988  12.320  15.820  1.00 26.73           C
ATOM    468  CD2 LEU A  74      14.225  13.371  18.077  1.00 23.39           C
ATOM    469  N   LYS A  75      11.897   9.053  20.244  1.00 24.97           N
ATOM    470  CA  LYS A  75      10.741   8.317  20.738  1.00 25.16           C
ATOM    471  C   LYS A  75      10.589   8.519  22.245  1.00 25.37           C
ATOM    472  O   LYS A  75       9.612   8.082  22.822  1.00 25.23           O
ATOM    473  CB  LYS A  75      10.885   6.819  20.428  1.00 25.16           C
ATOM    474  CG  LYS A  75      12.079   6.163  21.097  1.00 25.17           C
ATOM    475  CD  LYS A  75      12.178   4.653  20.765  1.00 27.19           C
ATOM    476  CE  LYS A  75      13.646   4.220  20.609  1.00 26.95           C
ATOM    477  NZ  LYS A  75      14.348   4.123  21.868  1.00 26.22           N
ATOM    478  N   TRP A  76      11.552   9.179  22.882  1.00 25.25           N
ATOM    479  CA  TRP A  76      11.486   9.389  24.319  1.00 25.56           C
ATOM    480  C   TRP A  76      10.268  10.201  24.749  1.00 26.35           C
ATOM    481  O   TRP A  76       9.920  11.198  24.130  1.00 26.71           O
ATOM    482  CB  TRP A  76      12.719  10.139  24.816  1.00 25.19           C
ATOM    483  CG  TRP A  76      13.975   9.338  24.816  1.00 24.32           C
ATOM    484  CD1 TRP A  76      14.129   8.059  24.393  1.00 22.72           C
ATOM    485  CD2 TRP A  76      15.258   9.762  25.271  1.00 22.34           C
ATOM    486  NE1 TRP A  76      15.431   7.658  24.552  1.00 20.61           N
ATOM    487  CE2 TRP A  76      16.145   8.685  25.096  1.00 20.28           C
ATOM    488  CE3 TRP A  76      15.750  10.944  25.817  1.00 22.65           C
ATOM    489  CZ2 TRP A  76      17.481   8.756  25.437  1.00 20.18           C
ATOM    490  CZ3 TRP A  76      17.088  11.012  26.163  1.00 21.43           C
ATOM    491  CH2 TRP A  76      17.932   9.934  25.970  1.00 21.94           C
ATOM    492  N   ASP A  77       9.643   9.772  25.836  1.00 26.46           N
ATOM    493  CA  ASP A  77       8.583  10.530  26.467  1.00 26.47           C
ATOM    494  C   ASP A  77       8.618  10.116  27.931  1.00 26.16           C
ATOM    495  O   ASP A  77       9.405   9.264  28.291  1.00 26.44           O
ATOM    496  CB  ASP A  77       7.230  10.276  25.810  1.00 26.51           C
ATOM    497  CG  ASP A  77       6.795   8.835  25.885  1.00 27.32           C
ATOM    498  OD1 ASP A  77       7.388   8.015  26.638  1.00 26.02           O
ATOM    499  OD2 ASP A  77       5.832   8.439  25.211  1.00 29.97           O
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ATOM	500	N	LEU	A	78	7.790	10.705	28.775	1.00	25.96	N
ATOM	501	CA	LEU	A	78	7.893	10.441	30.201	1.00	26.27	C
ATOM	502	C	LEU	A	78	7.716	8.965	30.539	1.00	26.14	C
ATOM	503	O	LEU	A	78	8.446	8.438	31.374	1.00	25.51	O
ATOM	504	CB	LEU	A	78	6.905	11.301	30.979	1.00	26.32	C
ATOM	505	CG	LEU	A	78	7.155	12.802	30.860	1.00	27.35	C
ATOM	506	CD1	LEU	A	78	6.098	13.579	31.623	1.00	28.05	C
ATOM	507	CD2	LEU	A	78	8.536	13.165	31.379	1.00	28.39	C
ATOM	508	N	GLU	A	79	6.775	8.297	29.874	1.00	26.56	N
ATOM	509	CA	GLU	A	79	6.526	6.876	30.123	1.00	27.00	C
ATOM	510	C	GLU	A	79	7.754	6.029	29.780	1.00	26.63	C
ATOM	511	O	GLU	A	79	8.220	5.231	30.583	1.00	25.94	O
ATOM	512	CB	GLU	A	79	5.302	6.371	29.333	1.00	27.39	C
ATOM	513	CG	GLU	A	79	4.963	4.919	29.657	1.00	29.75	C
ATOM	514	CD	GLU	A	79	3.803	4.347	28.854	1.00	33.15	C
ATOM	515	OE1	GLU	A	79	3.361	4.976	27.863	1.00	35.39	O
ATOM	516	OE2	GLU	A	79	3.338	3.245	29.224	1.00	35.44	O
ATOM	517	N	TYR	A	80	8.279	6.205	28.575	1.00	26.53	N
ATOM	518	CA	TYR	A	80	9.466	5.465	28.169	1.00	26.29	C
ATOM	519	C	TYR	A	80	10.669	5.763	29.072	1.00	25.83	C
ATOM	520	O	TYR	A	80	11.418	4.863	29.435	1.00	25.75	O
ATOM	521	CB	TYR	A	80	9.812	5.802	26.728	1.00	26.53	C
ATOM	522	CG	TYR	A	80	11.047	5.106	26.210	1.00	26.94	C
ATOM	523	CD1	TYR	A	80	10.971	3.836	25.637	1.00	26.53	C
ATOM	524	CD2	TYR	A	80	12.287	5.721	26.291	1.00	25.32	C
ATOM	525	CE1	TYR	A	80	12.113	3.208	25.142	1.00	26.28	C
ATOM	526	CE2	TYR	A	80	13.416	5.109	25.823	1.00	25.73	C
ATOM	527	CZ	TYR	A	80	13.331	3.861	25.240	1.00	25.94	C
ATOM	528	OH	TYR	A	80	14.478	3.294	24.758	1.00	25.55	O
ATOM	529	N	LEU	A	81	10.859	7.016	29.448	1.00	25.62	N
ATOM	530	CA	LEU	A	81	12.000	7.350	30.309	1.00	25.87	C
ATOM	531	C	LEU	A	81	11.821	6.794	31.733	1.00	26.06	C
ATOM	532	O	LEU	A	81	12.763	6.263	32.327	1.00	26.00	O
ATOM	533	CB	LEU	A	81	12.250	8.863	30.340	1.00	25.81	C
ATOM	534	CG	LEU	A	81	12.748	9.501	29.030	1.00	25.65	C
ATOM	535	CD1	LEU	A	81	12.828	11.010	29.174	1.00	26.40	C
ATOM	536	CD2	LEU	A	81	14.102	8.959	28.592	1.00	25.79	C
ATOM	537	N	GLN	A	82	10.617	6.913	32.274	1.00	26.27	N
ATOM	538	CA	GLN	A	82	10.338	6.388	33.602	1.00	26.77	C
ATOM	539	C	GLN	A	82	10.640	4.897	33.623	1.00	26.51	C
ATOM	540	O	GLN	A	82	11.232	4.384	34.552	1.00	26.60	O
ATOM	541	CB	GLN	A	82	8.877	6.611	33.974	1.00	26.90	C
ATOM	542	CG	GLN	A	82	8.466	5.856	35.236	1.00	28.41	C
ATOM	543	CD	GLN	A	82	7.315	6.501	35.987	1.00	30.63	C
ATOM	544	OE1	GLN	A	82	6.755	7.501	35.551	1.00	32.13	O
ATOM	545	NE2	GLN	A	82	6.944	5.907	37.116	1.00	34.12	N
ATOM	546	N	GLU	A	83	10.252	4.216	32.561	1.00	26.68	N
ATOM	547	CA	GLU	A	83	10.429	2.773	32.456	1.00	26.90	C
ATOM	548	C	GLU	A	83	11.893	2.359	32.295	1.00	26.42	C
ATOM	549	O	GLU	A	83	12.285	1.294	32.764	1.00	25.50	O
ATOM	550	CB	GLU	A	83	9.604	2.257	31.273	1.00	26.84	C
ATOM	551	CG	GLU	A	83	9.607	0.753	31.080	1.00	29.20	C
ATOM	552	CD	GLU	A	83	8.902	0.014	32.205	1.00	31.92	C
ATOM	553	OE1	GLU	A	83	8.258	0.666	33.060	1.00	34.06	O
ATOM	554	OE2	GLU	A	83	9.008	-1.221	32.243	1.00	33.78	O
ATOM	555	N	ASN	A	84	12.711	3.223	31.700	1.00	25.79	N
ATOM	556	CA	ASN	A	84	14.063	2.824	31.312	1.00	25.87	C
ATOM	557	C	ASN	A	84	15.273	3.607	31.810	1.00	26.08	C
ATOM	558	O	ASN	A	84	16.392	3.138	31.628	1.00	26.05	O
ATOM	559	CB	ASN	A	84	14.137	2.844	29.784	1.00	25.74	C
ATOM	560	CG	ASN	A	84	13.262	1.799	29.152	1.00	25.67	C

ATOM	561	OD1	ASN	A	84	13.402	0.608	29.439	1.00	24.26	O
ATOM	562	ND2	ASN	A	84	12.354	2.231	28.288	1.00	22.66	N
ATOM	563	N	ILE	A	85	15.087	4.773	32.422	1.00	26.02	N
ATOM	564	CA	ILE	A	85	16.240	5.599	32.763	1.00	26.74	C
ATOM	565	C	ILE	A	85	16.930	5.307	34.099	1.00	26.89	C
ATOM	566	O	ILE	A	85	17.820	6.054	34.519	1.00	26.93	O
ATOM	567	CB	ILE	A	85	15.846	7.076	32.688	1.00	26.70	C
ATOM	568	CG1	ILE	A	85	17.049	7.923	32.270	1.00	27.99	C
ATOM	569	CG2	ILE	A	85	15.232	7.535	33.988	1.00	26.50	C
ATOM	570	CD1	ILE	A	85	16.696	9.389	32.000	1.00	28.77	C
ATOM	571	N	GLY	A	86	16.503	4.253	34.773	1.00	27.27	N
ATOM	572	CA	GLY	A	86	17.130	3.834	36.018	1.00	27.51	C
ATOM	573	C	GLY	A	86	16.573	4.453	37.289	1.00	27.73	C
ATOM	574	O	GLY	A	86	15.563	5.163	37.268	1.00	27.80	O
ATOM	575	N	ASN	A	87	17.273	4.186	38.392	1.00	27.70	N
ATOM	576	CA	ASN	A	87	16.864	4.603	39.726	1.00	27.53	C
ATOM	577	C	ASN	A	87	17.849	5.602	40.320	1.00	27.33	C
ATOM	578	O	ASN	A	87	17.932	5.762	41.539	1.00	26.97	O
ATOM	579	CB	ASN	A	87	16.726	3.367	40.644	1.00	27.60	C
ATOM	580	N	GLY	A	88	18.601	6.273	39.455	1.00	27.41	N
ATOM	581	CA	GLY	A	88	19.528	7.307	39.888	1.00	27.29	C
ATOM	582	C	GLY	A	88	18.762	8.549	40.288	1.00	27.18	C
ATOM	583	O	GLY	A	88	17.570	8.654	40.001	1.00	27.43	O
ATOM	584	N	ASP	A	89	19.437	9.489	40.945	1.00	27.04	N
ATOM	585	CA	ASP	A	89	18.808	10.739	41.366	1.00	26.88	C
ATOM	586	C	ASP	A	89	18.761	11.755	40.227	1.00	26.69	C
ATOM	587	O	ASP	A	89	19.697	11.848	39.446	1.00	26.91	O
ATOM	588	CB	ASP	A	89	19.596	11.372	42.504	1.00	26.95	C
ATOM	589	CG	ASP	A	89	19.375	10.688	43.834	1.00	27.28	C
ATOM	590	OD1	ASP	A	89	18.499	9.811	43.939	1.00	29.31	O
ATOM	591	OD2	ASP	A	89	20.040	10.983	44.839	1.00	27.32	O
ATOM	592	N	PHE	A	90	17.687	12.531	40.152	1.00	26.24	N
ATOM	593	CA	PHE	A	90	17.598	13.594	39.165	1.00	26.10	C
ATOM	594	C	PHE	A	90	17.407	14.931	39.866	1.00	26.23	C
ATOM	595	O	PHE	A	90	16.629	15.037	40.811	1.00	26.48	O
ATOM	596	CB	PHE	A	90	16.460	13.322	38.184	1.00	25.91	C
ATOM	597	CG	PHE	A	90	16.747	12.201	37.241	1.00	25.26	C
ATOM	598	CD1	PHE	A	90	16.601	10.886	37.640	1.00	25.32	C
ATOM	599	CD2	PHE	A	90	17.190	12.459	35.958	1.00	26.02	C
ATOM	600	CE1	PHE	A	90	16.872	9.856	36.777	1.00	24.09	C
ATOM	601	CE2	PHE	A	90	17.460	11.427	35.091	1.00	25.07	C
ATOM	602	CZ	PHE	A	90	17.308	10.117	35.512	1.00	24.67	C
ATOM	603	N	SER	A	91	18.149	15.941	39.430	1.00	26.33	N
ATOM	604	CA	SER	A	91	17.985	17.280	39.973	1.00	26.48	C
ATOM	605	C	SER	A	91	16.777	17.923	39.310	1.00	26.71	C
ATOM	606	O	SER	A	91	16.696	18.029	38.077	1.00	26.09	O
ATOM	607	CB	SER	A	91	19.226	18.152	39.763	1.00	26.25	C
ATOM	608	OG	SER	A	91	20.364	17.543	40.326	1.00	26.61	O
ATOM	609	N	VAL	A	92	15.835	18.327	40.150	1.00	27.06	N
ATOM	610	CA	VAL	A	92	14.629	18.971	39.695	1.00	27.44	C
ATOM	611	C	VAL	A	92	14.468	20.295	40.405	1.00	27.57	C
ATOM	612	O	VAL	A	92	14.475	20.376	41.642	1.00	26.69	O
ATOM	613	CB	VAL	A	92	13.407	18.132	40.004	1.00	27.60	C
ATOM	614	CG1	VAL	A	92	12.164	18.800	39.432	1.00	28.15	C
ATOM	615	CG2	VAL	A	92	13.584	16.731	39.457	1.00	27.84	C
ATOM	616	N	TYR	A	93	14.312	21.334	39.598	1.00	27.77	N
ATOM	617	CA	TYR	A	93	14.120	22.661	40.108	1.00	27.91	C
ATOM	618	C	TYR	A	93	12.654	22.940	40.172	1.00	28.16	C
ATOM	619	O	TYR	A	93	11.894	22.525	39.303	1.00	28.02	O
ATOM	620	CB	TYR	A	93	14.810	23.673	39.216	1.00	27.94	C
ATOM	621	CG	TYR	A	93	16.291	23.593	39.368	1.00	29.53	C

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ATOM    622  CD1 TYR A  93      16.929  24.258  40.395  1.00 29.48           C
ATOM    623  CD2 TYR A  93      17.046  22.815  38.522  1.00 30.95           C
ATOM    624  CE1 TYR A  93      18.266  24.169  40.553  1.00 29.93           C
ATOM    625  CE2 TYR A  93      18.386  22.726  38.679  1.00 31.90           C
ATOM    626  CZ  TYR A  93      18.985  23.402  39.704  1.00 31.56           C
ATOM    627  OH  TYR A  93      20.327  23.306  39.878  1.00 35.47           O
ATOM    628  N   SER A  94      12.282  23.669  41.208  1.00 28.70           N
ATOM    629  CA  SER A  94      10.913  24.037  41.459  1.00 29.47           C
ATOM    630  C   SER A  94      10.856  25.547  41.554  1.00 29.69           C
ATOM    631  O   SER A  94      11.705  26.167  42.187  1.00 29.50           O
ATOM    632  CB  SER A  94      10.456  23.411  42.774  1.00 29.32           C
ATOM    633  OG  SER A  94       9.093  23.701  43.009  1.00 30.85           O
ATOM    634  N   ALA A  95       9.858  26.146  40.928  1.00 30.39           N
ATOM    635  CA  ALA A  95       9.760  27.591  40.929  1.00 31.04           C
ATOM    636  C   ALA A  95       8.330  28.064  40.932  1.00 31.76           C
ATOM    637  O   ALA A  95       7.425  27.386  40.452  1.00 31.87           O
ATOM    638  CB  ALA A  95      10.480  28.165  39.716  1.00 31.12           C
ATOM    639  N   SER A  96       8.147  29.258  41.467  1.00 32.54           N
ATOM    640  CA  SER A  96       6.848  29.891  41.489  1.00 33.42           C
ATOM    641  C   SER A  96       6.708  30.869  40.326  1.00 33.15           C
ATOM    642  O   SER A  96       5.662  31.487  40.163  1.00 34.35           O
ATOM    643  CB  SER A  96       6.673  30.661  42.787  1.00 33.88           C
ATOM    644  OG  SER A  96       5.380  31.217  42.815  1.00 35.79           O
ATOM    645  N   THR A  97       7.775  31.031  39.554  1.00 32.09           N
ATOM    646  CA  THR A  97       7.797  31.920  38.397  1.00 31.44           C
ATOM    647  C   THR A  97       8.185  31.095  37.191  1.00 30.26           C
ATOM    648  O   THR A  97       8.693  30.003  37.348  1.00 29.72           O
ATOM    649  CB  THR A  97       8.857  33.031  38.582  1.00 31.64           C
ATOM    650  OG1 THR A  97       9.147  33.656  37.323  1.00 32.17           O
ATOM    651  CG2 THR A  97      10.227  32.455  38.978  1.00 31.73           C
ATOM    652  N   HIS A  98       7.974  31.623  35.996  1.00 29.35           N
ATOM    653  CA  HIS A  98       8.379  30.915  34.780  1.00 28.83           C
ATOM    654  C   HIS A  98       9.899  30.969  34.589  1.00 28.37           C
ATOM    655  O   HIS A  98      10.467  30.189  33.824  1.00 27.53           O
ATOM    656  CB  HIS A  98       7.671  31.490  33.548  1.00 28.76           C
ATOM    657  CG  HIS A  98       7.936  32.942  33.309  1.00 28.53           C
ATOM    658  ND1 HIS A  98       7.271  33.944  33.984  1.00 29.18           N
ATOM    659  CD2 HIS A  98       8.793  33.566  32.463  1.00 29.68           C
ATOM    660  CE1 HIS A  98       7.708  35.120  33.568  1.00 29.42           C
ATOM    661  NE2 HIS A  98       8.638  34.919  32.650  1.00 29.10           N
ATOM    662  N   LYS A  99      10.562  31.874  35.299  1.00 27.85           N
ATOM    663  CA  LYS A  99      11.997  32.041  35.124  1.00 28.24           C
ATOM    664  C   LYS A  99      12.878  31.143  35.997  1.00 27.69           C
ATOM    665  O   LYS A  99      12.892  31.278  37.216  1.00 29.10           O
ATOM    666  CB  LYS A  99      12.366  33.498  35.349  1.00 28.47           C
ATOM    667  CG  LYS A  99      11.836  34.410  34.255  1.00 30.42           C
ATOM    668  CD  LYS A  99      12.431  35.791  34.347  1.00 32.66           C
ATOM    669  CE  LYS A  99      11.757  36.624  35.421  1.00 34.45           C
ATOM    670  NZ  LYS A  99      10.569  37.347  34.884  1.00 35.39           N
ATOM    671  N   PHE A 100      13.621  30.237  35.376  1.00 26.40           N
ATOM    672  CA  PHE A 100      14.551  29.397  36.127  1.00 25.95           C
ATOM    673  C   PHE A 100      15.978  29.920  35.995  1.00 25.87           C
ATOM    674  O   PHE A 100      16.809  29.386  35.247  1.00 25.86           O
ATOM    675  CB  PHE A 100      14.469  27.945  35.686  1.00 25.48           C
ATOM    676  CG  PHE A 100      13.211  27.267  36.109  1.00 25.06           C
ATOM    677  CD1 PHE A 100      12.047  27.436  35.388  1.00 24.80           C
ATOM    678  CD2 PHE A 100      13.191  26.472  37.238  1.00 25.18           C
ATOM    679  CE1 PHE A 100      10.886  26.805  35.772  1.00 25.96           C
ATOM    680  CE2 PHE A 100      12.030  25.835  37.631  1.00 25.79           C
ATOM    681  CZ  PHE A 100      10.878  26.004  36.898  1.00 26.05           C
ATOM    682  N   LEU A 101      16.237  30.997  36.709  1.00 25.77           N
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ATOM    683  CA  LEU A 101      17.549  31.589  36.747  1.00 25.85           C
ATOM    684  C   LEU A 101      18.527  30.605  37.381  1.00 25.87           C
ATOM    685  O   LEU A 101      18.319  30.136  38.503  1.00 24.99           O
ATOM    686  CB  LEU A 101      17.488  32.876  37.559  1.00 25.84           C
ATOM    687  CG  LEU A 101      18.795  33.656  37.708  1.00 26.07           C
ATOM    688  CD1 LEU A 101      19.244  34.200  36.377  1.00 25.11           C
ATOM    689  CD2 LEU A 101      18.609  34.800  38.710  1.00 27.75           C
ATOM    690  N   TYR A 102      19.582  30.274  36.644  1.00 26.56           N
ATOM    691  CA  TYR A 102      20.611  29.380  37.159  1.00 26.99           C
ATOM    692  C   TYR A 102      21.430  30.072  38.260  1.00 27.10           C
ATOM    693  O   TYR A 102      21.711  31.264  38.174  1.00 27.00           O
ATOM    694  CB  TYR A 102      21.562  28.939  36.053  1.00 27.26           C
ATOM    695  CG  TYR A 102      22.667  28.088  36.620  1.00 28.93           C
ATOM    696  CD1 TYR A 102      22.457  26.750  36.914  1.00 29.52           C
ATOM    697  CD2 TYR A 102      23.906  28.636  36.909  1.00 31.11           C
ATOM    698  CE1 TYR A 102      23.463  25.979  37.480  1.00 32.23           C
ATOM    699  CE2 TYR A 102      24.913  27.872  37.470  1.00 32.52           C
ATOM    700  CZ  TYR A 102      24.693  26.549  37.750  1.00 33.88           C
ATOM    701  OH  TYR A 102      25.727  25.794  38.314  1.00 38.68           O
ATOM    702  N   TYR A 103      21.793  29.322  39.296  1.00 26.83           N
ATOM    703  CA  TYR A 103      22.667  29.840  40.343  1.00 27.22           C
ATOM    704  C   TYR A 103      23.613  28.750  40.834  1.00 26.77           C
ATOM    705  O   TYR A 103      23.287  27.556  40.853  1.00 25.60           O
ATOM    706  CB  TYR A 103      21.880  30.440  41.517  1.00 27.38           C
ATOM    707  CG  TYR A 103      20.909  29.493  42.154  1.00 29.11           C
ATOM    708  CD1 TYR A 103      19.639  29.340  41.639  1.00 30.58           C
ATOM    709  CD2 TYR A 103      21.257  28.759  43.279  1.00 32.13           C
ATOM    710  CE1 TYR A 103      18.734  28.469  42.212  1.00 32.78           C
ATOM    711  CE2 TYR A 103      20.357  27.887  43.877  1.00 33.15           C
ATOM    712  CZ  TYR A 103      19.096  27.745  43.329  1.00 34.41           C
ATOM    713  OH  TYR A 103      18.187  26.888  43.892  1.00 37.44           O
ATOM    714  N   ASP A 104      24.798  29.182  41.225  1.00 26.36           N
ATOM    715  CA  ASP A 104      25.832  28.273  41.673  1.00 26.28           C
ATOM    716  C   ASP A 104      25.802  28.239  43.184  1.00 26.21           C
ATOM    717  O   ASP A 104      26.163  29.212  43.845  1.00 25.45           O
ATOM    718  CB  ASP A 104      27.174  28.765  41.154  1.00 25.92           C
ATOM    719  CG  ASP A 104      28.330  27.889  41.575  1.00 27.39           C
ATOM    720  OD1 ASP A 104      28.161  26.973  42.437  1.00 27.13           O
ATOM    721  OD2 ASP A 104      29.459  28.068  41.075  1.00 27.68           O
ATOM    722  N   GLU A 105      25.358  27.114  43.724  1.00 26.46           N
ATOM    723  CA  GLU A 105      25.218  26.962  45.162  1.00 27.02           C
ATOM    724  C   GLU A 105      26.540  27.199  45.916  1.00 26.91           C
ATOM    725  O   GLU A 105      26.523  27.718  47.026  1.00 26.51           O
ATOM    726  CB  GLU A 105      24.602  25.587  45.481  1.00 27.45           C
ATOM    727  CG  GLU A 105      23.088  25.556  45.254  1.00 29.46           C
ATOM    728  CD  GLU A 105      22.527  24.158  45.025  1.00 32.85           C
ATOM    729  OE1 GLU A 105      22.908  23.234  45.765  1.00 32.90           O
ATOM    730  OE2 GLU A 105      21.703  23.980  44.085  1.00 35.16           O
ATOM    731  N   LYS A 106      27.680  26.874  45.305  1.00 27.12           N
ATOM    732  CA  LYS A 106      28.979  27.041  45.983  1.00 27.54           C
ATOM    733  C   LYS A 106      29.331  28.493  46.258  1.00 27.70           C
ATOM    734  O   LYS A 106      30.164  28.769  47.099  1.00 27.61           O
ATOM    735  CB  LYS A 106      30.127  26.441  45.163  1.00 27.58           C
ATOM    736  CG  LYS A 106      30.038  24.928  44.918  1.00 28.61           C
ATOM    737  N   LYS A 107      28.713  29.420  45.537  1.00 27.99           N
ATOM    738  CA  LYS A 107      29.020  30.826  45.694  1.00 28.30           C
ATOM    739  C   LYS A 107      28.034  31.513  46.631  1.00 29.21           C
ATOM    740  O   LYS A 107      28.175  32.701  46.917  1.00 29.08           O
ATOM    741  CB  LYS A 107      29.040  31.524  44.324  1.00 28.30           C
ATOM    742  CG  LYS A 107      30.344  31.291  43.516  1.00 28.07           C
ATOM    743  CD  LYS A 107      30.242  31.737  42.034  1.00 27.29           C
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ATOM    744  CE  LYS A 107      31.584  31.518  41.315  1.00 26.86           C
ATOM    745  NZ  LYS A 107      31.642  31.889  39.870  1.00 24.80           N
ATOM    746  N   MET A 108      27.041  30.781  47.125  1.00 30.08           N
ATOM    747  CA  MET A 108      26.031  31.405  47.982  1.00 31.53           C
ATOM    748  C   MET A 108      26.581  31.952  49.309  1.00 32.44           C
ATOM    749  O   MET A 108      26.102  32.972  49.812  1.00 32.47           O
ATOM    750  CB  MET A 108      24.862  30.452  48.218  1.00 31.81           C
ATOM    751  CG  MET A 108      24.072  30.193  46.932  1.00 33.07           C
ATOM    752  SD  MET A 108      22.625  29.140  47.064  1.00 35.76           S
ATOM    753  CE  MET A 108      21.540  30.140  48.050  1.00 35.99           C
ATOM    754  N   ALA A 109      27.603  31.315  49.860  1.00 33.56           N
ATOM    755  CA  ALA A 109      28.154  31.769  51.138  1.00 34.94           C
ATOM    756  C   ALA A 109      28.651  33.212  51.060  1.00 35.81           C
ATOM    757  O   ALA A 109      28.483  33.989  51.991  1.00 36.23           O
ATOM    758  CB  ALA A 109      29.279  30.838  51.606  1.00 34.82           C
ATOM    759  N   ASN A 110      29.236  33.575  49.929  1.00 37.05           N
ATOM    760  CA  ASN A 110      29.774  34.918  49.748  1.00 37.94           C
ATOM    761  C   ASN A 110      28.731  35.992  49.413  1.00 38.13           C
ATOM    762  O   ASN A 110      29.064  37.167  49.293  1.00 37.92           O
ATOM    763  CB  ASN A 110      30.855  34.878  48.669  1.00 38.16           C
ATOM    764  CG  ASN A 110      32.050  34.035  49.079  1.00 39.37           C
ATOM    765  OD1 ASN A 110      32.407  33.964  50.265  1.00 40.12           O
ATOM    766  ND2 ASN A 110      32.670  33.377  48.103  1.00 39.46           N
ATOM    767  N   PHE A 111      27.480  35.588  49.234  1.00 38.71           N
ATOM    768  CA  PHE A 111      26.408  36.539  48.966  1.00 39.02           C
ATOM    769  C   PHE A 111      25.180  36.135  49.773  1.00 39.71           C
ATOM    770  O   PHE A 111      24.143  35.747  49.232  1.00 39.45           O
ATOM    771  CB  PHE A 111      26.091  36.603  47.471  1.00 38.97           C
ATOM    772  CG  PHE A 111      27.110  37.362  46.672  1.00 38.04           C
ATOM    773  CD1 PHE A 111      28.329  36.791  46.363  1.00 37.99           C
ATOM    774  CD2 PHE A 111      26.851  38.642  46.235  1.00 36.83           C
ATOM    775  CE1 PHE A 111      29.269  37.493  45.635  1.00 37.68           C
ATOM    776  CE2 PHE A 111      27.788  39.339  45.500  1.00 36.08           C
ATOM    777  CZ  PHE A 111      28.994  38.768  45.208  1.00 35.84           C
ATOM    778  N   GLN A 112      25.315  36.267  51.085  1.00 40.62           N
ATOM    779  CA  GLN A 112      24.286  35.852  52.029  1.00 41.31           C
ATOM    780  C   GLN A 112      22.915  36.430  51.721  1.00 41.10           C
ATOM    781  O   GLN A 112      21.906  35.827  52.060  1.00 41.31           O
ATOM    782  CB  GLN A 112      24.701  36.236  53.451  1.00 41.65           C
ATOM    783  CG  GLN A 112      26.058  35.694  53.882  1.00 43.80           C
ATOM    784  CD  GLN A 112      26.104  34.177  53.938  1.00 46.42           C
ATOM    785  OE1 GLN A 112      25.394  33.501  53.191  1.00 48.56           O
ATOM    786  NE2 GLN A 112      26.951  33.637  54.816  1.00 46.94           N
ATOM    787  N   ASN A 113      22.876  37.588  51.074  1.00 41.02           N
ATOM    788  CA  ASN A 113      21.606  38.229  50.749  1.00 40.98           C
ATOM    789  C   ASN A 113      20.954  37.760  49.440  1.00 40.71           C
ATOM    790  O   ASN A 113      19.889  38.251  49.071  1.00 40.77           O
ATOM    791  CB  ASN A 113      21.778  39.753  50.737  1.00 41.09           C
ATOM    792  CG  ASN A 113      22.129  40.314  52.123  1.00 41.51           C
ATOM    793  OD1 ASN A 113      21.717  39.772  53.158  1.00 40.60           O
ATOM    794  ND2 ASN A 113      22.892  41.401  52.141  1.00 41.19           N
ATOM    795  N   PHE A 114      21.571  36.826  48.725  1.00 40.34           N
ATOM    796  CA  PHE A 114      20.934  36.321  47.515  1.00 39.86           C
ATOM    797  C   PHE A 114      19.908  35.266  47.902  1.00 39.46           C
ATOM    798  O   PHE A 114      20.235  34.299  48.584  1.00 38.82           O
ATOM    799  CB  PHE A 114      21.940  35.714  46.552  1.00 39.96           C
ATOM    800  CG  PHE A 114      21.298  35.059  45.362  1.00 40.54           C
ATOM    801  CD1 PHE A 114      20.670  35.828  44.395  1.00 40.29           C
ATOM    802  CD2 PHE A 114      21.295  33.679  45.224  1.00 40.62           C
ATOM    803  CE1 PHE A 114      20.061  35.237  43.307  1.00 40.20           C
ATOM    804  CE2 PHE A 114      20.684  33.082  44.126  1.00 40.36           C
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ATOM    805  CZ  PHE A 114      20.066  33.866  43.172  1.00 40.52           C
ATOM    806  N   LYS A 115      18.669  35.457  47.461  1.00 39.11           N
ATOM    807  CA  LYS A 115      17.596  34.529  47.787  1.00 39.02           C
ATOM    808  C   LYS A 115      17.042  33.938  46.497  1.00 38.71           C
ATOM    809  O   LYS A 115      16.285  34.590  45.787  1.00 39.00           O
ATOM    810  CB  LYS A 115      16.498  35.251  48.578  1.00 39.14           C
ATOM    811  N   PRO A 116      17.389  32.691  46.213  1.00 38.17           N
ATOM    812  CA  PRO A 116      17.027  32.060  44.938  1.00 37.95           C
ATOM    813  C   PRO A 116      15.532  31.889  44.783  1.00 37.38           C
ATOM    814  O   PRO A 116      14.865  31.506  45.733  1.00 37.36           O
ATOM    815  CB  PRO A 116      17.684  30.679  45.004  1.00 38.15           C
ATOM    816  CG  PRO A 116      18.416  30.604  46.297  1.00 38.40           C
ATOM    817  CD  PRO A 116      18.079  31.775  47.125  1.00 38.19           C
ATOM    818  N   ARG A 117      15.027  32.161  43.590  1.00 36.84           N
ATOM    819  CA  ARG A 117      13.611  32.028  43.293  1.00 36.61           C
ATOM    820  C   ARG A 117      13.259  30.581  42.984  1.00 36.38           C
ATOM    821  O   ARG A 117      12.084  30.230  42.913  1.00 36.44           O
ATOM    822  CB  ARG A 117      13.235  32.913  42.122  1.00 36.62           C
ATOM    823  N   SER A 118      14.271  29.745  42.777  1.00 35.79           N
ATOM    824  CA  SER A 118      14.025  28.339  42.538  1.00 35.51           C
ATOM    825  C   SER A 118      14.844  27.491  43.512  1.00 35.35           C
ATOM    826  O   SER A 118      15.888  27.923  43.991  1.00 35.16           O
ATOM    827  CB  SER A 118      14.330  27.976  41.086  1.00 35.26           C
ATOM    828  OG  SER A 118      15.689  28.164  40.795  1.00 35.14           O
ATOM    829  N   ASN A 119      14.329  26.306  43.824  1.00 35.11           N
ATOM    830  CA  ASN A 119      14.997  25.373  44.715  1.00 35.21           C
ATOM    831  C   ASN A 119      15.233  24.049  44.022  1.00 34.26           C
ATOM    832  O   ASN A 119      14.401  23.595  43.244  1.00 34.11           O
ATOM    833  CB  ASN A 119      14.145  25.110  45.957  1.00 35.95           C
ATOM    834  CG  ASN A 119      13.636  26.382  46.592  1.00 38.47           C
ATOM    835  OD1 ASN A 119      14.417  27.245  47.025  1.00 41.76           O
ATOM    836  ND2 ASN A 119      12.314  26.511  46.657  1.00 42.21           N
ATOM    837  N   ARG A 120      16.368  23.434  44.326  1.00 33.75           N
ATOM    838  CA  ARG A 120      16.750  22.149  43.761  1.00 33.33           C
ATOM    839  C   ARG A 120      16.327  21.045  44.699  1.00 33.26           C
ATOM    840  O   ARG A 120      16.523  21.138  45.910  1.00 33.07           O
ATOM    841  CB  ARG A 120      18.270  22.075  43.592  1.00 33.37           C
ATOM    842  CG  ARG A 120      18.759  20.889  42.771  1.00 32.70           C
ATOM    843  CD  ARG A 120      20.277  20.732  42.743  1.00 31.64           C
ATOM    844  NE  ARG A 120      20.892  21.165  43.992  1.00 31.16           N
ATOM    845  CZ  ARG A 120      21.233  20.357  44.993  1.00 31.33           C
ATOM    846  NH1 ARG A 120      21.027  19.047  44.920  1.00 30.77           N
ATOM    847  NH2 ARG A 120      21.789  20.867  46.077  1.00 31.01           N
ATOM    848  N   GLU A 121      15.735  20.001  44.137  1.00 32.98           N
ATOM    849  CA  GLU A 121      15.379  18.827  44.904  1.00 32.85           C
ATOM    850  C   GLU A 121      15.846  17.630  44.095  1.00 32.17           C
ATOM    851  O   GLU A 121      15.744  17.612  42.864  1.00 32.36           O
ATOM    852  CB  GLU A 121      13.874  18.767  45.179  1.00 33.21           C
ATOM    853  CG  GLU A 121      13.420  17.468  45.826  1.00 35.39           C
ATOM    854  CD  GLU A 121      12.189  17.629  46.699  1.00 38.11           C
ATOM    855  OE1 GLU A 121      12.326  18.152  47.830  1.00 41.26           O
ATOM    856  OE2 GLU A 121      11.091  17.221  46.270  1.00 39.55           O
ATOM    857  N   GLU A 122      16.400  16.648  44.786  1.00 31.28           N
ATOM    858  CA  GLU A 122      16.886  15.448  44.150  1.00 30.61           C
ATOM    859  C   GLU A 122      15.814  14.392  44.298  1.00 30.31           C
ATOM    860  O   GLU A 122      15.328  14.165  45.395  1.00 30.07           O
ATOM    861  CB  GLU A 122      18.163  14.980  44.833  1.00 30.52           C
ATOM    862  CG  GLU A 122      19.293  15.983  44.771  1.00 29.67           C
ATOM    863  CD  GLU A 122      19.747  16.253  43.348  1.00 29.79           C
ATOM    864  OE1 GLU A 122      20.120  15.280  42.667  1.00 28.28           O
ATOM    865  OE2 GLU A 122      19.734  17.439  42.914  1.00 27.93           O
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ATOM    866  N   MET A 123      15.432  13.751  43.202  1.00 29.74           N
ATOM    867  CA  MET A 123      14.407  12.728  43.277  1.00 29.77           C
ATOM    868  C   MET A 123      14.594  11.683  42.202  1.00 29.31           C
ATOM    869  O   MET A 123      15.408  11.842  41.294  1.00 29.42           O
ATOM    870  CB  MET A 123      13.016  13.354  43.165  1.00 29.81           C
ATOM    871  CG  MET A 123      12.749  14.057  41.865  1.00 30.27           C
ATOM    872  SD  MET A 123      11.181  14.960  41.871  1.00 31.65           S
ATOM    873  CE  MET A 123      11.582  16.371  42.804  1.00 31.47           C
ATOM    874  N   LYS A 124      13.835  10.604  42.332  1.00 28.82           N
ATOM    875  CA  LYS A 124      13.841   9.535  41.352  1.00 28.33           C
ATOM    876  C   LYS A 124      12.959   9.976  40.191  1.00 27.51           C
ATOM    877  O   LYS A 124      12.077  10.817  40.361  1.00 26.52           O
ATOM    878  CB  LYS A 124      13.330   8.242  41.984  1.00 28.45           C
ATOM    879  CG  LYS A 124      14.153   7.783  43.204  1.00 29.42           C
ATOM    880  CD  LYS A 124      15.597   7.442  42.804  1.00 30.46           C
ATOM    881  CE  LYS A 124      16.479   7.067  43.992  1.00 30.52           C
ATOM    882  NZ  LYS A 124      17.928   7.324  43.699  1.00 30.05           N
ATOM    883  N   PHE A 125      13.188   9.407  39.014  1.00 26.98           N
ATOM    884  CA  PHE A 125      12.477   9.871  37.826  1.00 26.83           C
ATOM    885  C   PHE A 125      10.974   9.762  37.972  1.00 26.77           C
ATOM    886  O   PHE A 125      10.245  10.673  37.585  1.00 26.38           O
ATOM    887  CB  PHE A 125      12.927   9.138  36.568  1.00 26.71           C
ATOM    888  CG  PHE A 125      12.613   9.891  35.316  1.00 26.32           C
ATOM    889  CD1 PHE A 125      13.476  10.876  34.849  1.00 26.29           C
ATOM    890  CD2 PHE A 125      11.438   9.657  34.635  1.00 26.06           C
ATOM    891  CE1 PHE A 125      13.183  11.594  33.715  1.00 25.70           C
ATOM    892  CE2 PHE A 125      11.140  10.368  33.483  1.00 26.70           C
ATOM    893  CZ  PHE A 125      12.018  11.341  33.025  1.00 26.87           C
ATOM    894  N   HIS A 126      10.527   8.649  38.550  1.00 26.77           N
ATOM    895  CA  HIS A 126       9.113   8.396  38.753  1.00 26.82           C
ATOM    896  C   HIS A 126       8.517   9.390  39.734  1.00 26.68           C
ATOM    897  O   HIS A 126       7.326   9.670  39.687  1.00 26.03           O
ATOM    898  CB  HIS A 126       8.882   6.951  39.238  1.00 27.07           C
ATOM    899  CG  HIS A 126       9.028   6.767  40.717  1.00 27.39           C
ATOM    900  ND1 HIS A 126       7.959   6.836  41.582  1.00 28.48           N
ATOM    901  CD2 HIS A 126      10.115   6.505  41.484  1.00 28.33           C
ATOM    902  CE1 HIS A 126       8.382   6.636  42.819  1.00 28.68           C
ATOM    903  NE2 HIS A 126       9.687   6.439  42.788  1.00 27.97           N
ATOM    904  N   GLU A 127       9.342   9.918  40.630  1.00 27.00           N
ATOM    905  CA  GLU A 127       8.876  10.930  41.572  1.00 27.34           C
ATOM    906  C   GLU A 127       8.683  12.259  40.838  1.00 27.36           C
ATOM    907  O   GLU A 127       7.761  13.026  41.126  1.00 26.86           O
ATOM    908  CB  GLU A 127       9.862  11.084  42.728  1.00 27.31           C
ATOM    909  CG  GLU A 127      10.018   9.821  43.552  1.00 28.69           C
ATOM    910  CD  GLU A 127      10.959   9.992  44.722  1.00 29.65           C
ATOM    911  OE1 GLU A 127      12.139  10.318  44.485  1.00 29.56           O
ATOM    912  OE2 GLU A 127      10.509   9.787  45.876  1.00 30.92           O
ATOM    913  N   PHE A 128       9.554  12.519  39.876  1.00 27.91           N
ATOM    914  CA  PHE A 128       9.453  13.736  39.068  1.00 28.21           C
ATOM    915  C   PHE A 128       8.149  13.658  38.282  1.00 29.04           C
ATOM    916  O   PHE A 128       7.354  14.600  38.255  1.00 29.03           O
ATOM    917  CB  PHE A 128      10.643  13.838  38.115  1.00 27.74           C
ATOM    918  CG  PHE A 128      10.427  14.792  36.959  1.00 27.06           C
ATOM    919  CD1 PHE A 128      10.189  16.138  37.185  1.00 25.41           C
ATOM    920  CD2 PHE A 128      10.480  14.343  35.657  1.00 25.60           C
ATOM    921  CE1 PHE A 128       9.985  17.000  36.144  1.00 25.41           C
ATOM    922  CE2 PHE A 128      10.281  15.215  34.604  1.00 26.59           C
ATOM    923  CZ  PHE A 128      10.032  16.540  34.846  1.00 25.61           C
ATOM    924  N   VAL A 129       7.925  12.500  37.677  1.00 29.90           N
ATOM    925  CA  VAL A 129       6.756  12.285  36.847  1.00 30.82           C
ATOM    926  C   VAL A 129       5.476  12.447  37.669  1.00 31.61           C
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ATOM	927	O	VAL	A	129	4.515	13.091	37.234	1.00 31.39	O
ATOM	928	CB	VAL	A	129	6.793	10.883	36.213	1.00 30.92	C
ATOM	929	CG1	VAL	A	129	5.479	10.582	35.503	1.00 31.15	C
ATOM	930	CG2	VAL	A	129	7.975	10.751	35.253	1.00 30.61	C
ATOM	931	N	GLU	A	130	5.475	11.858	38.861	1.00 32.42	N
ATOM	932	CA	GLU	A	130	4.332	11.946	39.761	1.00 33.13	C
ATOM	933	C	GLU	A	130	4.070	13.403	40.126	1.00 33.42	C
ATOM	934	O	GLU	A	130	2.930	13.867	40.081	1.00 33.01	O
ATOM	935	CB	GLU	A	130	4.587	11.108	41.017	1.00 33.20	C
ATOM	936	CG	GLU	A	130	4.537	9.609	40.755	1.00 34.22	C
ATOM	937	CD	GLU	A	130	5.294	8.792	41.789	1.00 35.55	C
ATOM	938	OE1	GLU	A	130	5.630	9.339	42.861	1.00 37.02	O
ATOM	939	OE2	GLU	A	130	5.558	7.598	41.525	1.00 35.99	O
ATOM	940	N	LYS	A	131	5.128	14.120	40.486	1.00 34.00	N
ATOM	941	CA	LYS	A	131	4.994	15.538	40.800	1.00 34.79	C
ATOM	942	C	LYS	A	131	4.354	16.286	39.637	1.00 35.25	C
ATOM	943	O	LYS	A	131	3.449	17.089	39.835	1.00 34.81	O
ATOM	944	CB	LYS	A	131	6.345	16.171	41.100	1.00 34.89	C
ATOM	945	CG	LYS	A	131	6.597	16.477	42.554	1.00 35.57	C
ATOM	946	CD	LYS	A	131	7.191	17.868	42.694	1.00 36.25	C
ATOM	947	CE	LYS	A	131	7.862	18.072	44.034	1.00 37.30	C
ATOM	948	NZ	LYS	A	131	8.108	19.526	44.332	1.00 37.49	N
ATOM	949	N	LEU	A	132	4.829	16.038	38.422	1.00 36.00	N
ATOM	950	CA	LEU	A	132	4.243	16.701	37.268	1.00 37.05	C
ATOM	951	C	LEU	A	132	2.755	16.406	37.170	1.00 37.67	C
ATOM	952	O	LEU	A	132	1.963	17.300	36.870	1.00 37.77	O
ATOM	953	CB	LEU	A	132	4.919	16.260	35.979	1.00 37.39	C
ATOM	954	CG	LEU	A	132	6.310	16.803	35.710	1.00 38.29	C
ATOM	955	CD1	LEU	A	132	6.783	16.289	34.363	1.00 39.35	C
ATOM	956	CD2	LEU	A	132	6.306	18.314	35.721	1.00 39.70	C
ATOM	957	N	GLN	A	133	2.386	15.151	37.417	1.00 38.34	N
ATOM	958	CA	GLN	A	133	0.989	14.730	37.373	1.00 39.11	C
ATOM	959	C	GLN	A	133	0.132	15.434	38.427	1.00 39.73	C
ATOM	960	O	GLN	A	133	-0.966	15.897	38.126	1.00 39.61	O
ATOM	961	CB	GLN	A	133	0.886	13.213	37.538	1.00 39.05	C
ATOM	962	N	ASP	A	134	0.629	15.507	39.658	1.00 40.61	N
ATOM	963	CA	ASP	A	134	-0.108	16.149	40.747	1.00 41.70	C
ATOM	964	C	ASP	A	134	-0.398	17.626	40.451	1.00 41.68	C
ATOM	965	O	ASP	A	134	-1.470	18.137	40.770	1.00 41.28	O
ATOM	966	CB	ASP	A	134	0.678	16.030	42.056	1.00 42.32	C
ATOM	967	CG	ASP	A	134	-0.165	16.351	43.286	1.00 44.92	C
ATOM	968	OD1	ASP	A	134	-1.235	16.991	43.152	1.00 48.33	O
ATOM	969	OD2	ASP	A	134	0.164	15.991	44.442	1.00 48.64	O
ATOM	970	N	ILE	A	135	0.563	18.312	39.842	1.00 41.92	N
ATOM	971	CA	ILE	A	135	0.383	19.717	39.512	1.00 42.18	C
ATOM	972	C	ILE	A	135	-0.715	19.862	38.471	1.00 42.41	C
ATOM	973	O	ILE	A	135	-1.635	20.664	38.634	1.00 42.49	O
ATOM	974	CB	ILE	A	135	1.696	20.324	38.997	1.00 42.17	C
ATOM	975	CG1	ILE	A	135	2.720	20.399	40.131	1.00 42.25	C
ATOM	976	CG2	ILE	A	135	1.451	21.708	38.437	1.00 42.11	C
ATOM	977	CD1	ILE	A	135	4.151	20.438	39.653	1.00 42.91	C
ATOM	978	N	GLN	A	136	-0.614	19.075	37.407	1.00 42.71	N
ATOM	979	CA	GLN	A	136	-1.593	19.114	36.333	1.00 43.09	C
ATOM	980	C	GLN	A	136	-2.991	18.935	36.900	1.00 43.56	C
ATOM	981	O	GLN	A	136	-3.863	19.785	36.707	1.00 43.93	O
ATOM	982	CB	GLN	A	136	-1.298	18.031	35.317	1.00 43.10	C
ATOM	983	N	GLN	A	137	-3.181	17.844	37.635	1.00 43.82	N
ATOM	984	CA	GLN	A	137	-4.486	17.493	38.182	1.00 44.02	C
ATOM	985	C	GLN	A	137	-5.023	18.540	39.144	1.00 44.08	C
ATOM	986	O	GLN	A	137	-6.202	18.891	39.080	1.00 44.46	O
ATOM	987	CB	GLN	A	137	-4.425	16.124	38.868	1.00 44.00	C

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ATOM    988  N   ARG A 138      -4.169  19.043  40.031  1.00 43.93           N
ATOM    989  CA  ARG A 138      -4.606  20.022  41.024  1.00 43.76           C
ATOM    990  C   ARG A 138      -4.578  21.445  40.463  1.00 43.34           C
ATOM    991  O   ARG A 138      -4.681  22.415  41.214  1.00 43.54           O
ATOM    992  CB  ARG A 138      -3.751  19.919  42.299  1.00 43.84           C
ATOM    993  CG  ARG A 138      -2.420  20.679  42.279  1.00 44.85           C
ATOM    994  CD  ARG A 138      -1.493  20.279  43.420  1.00 45.82           C
ATOM    995  NE  ARG A 138      -0.372  21.197  43.620  1.00 46.44           N
ATOM    996  CZ  ARG A 138       0.914  20.863  43.499  1.00 47.95           C
ATOM    997  NH1 ARG A 138       1.262  19.627  43.162  1.00 49.02           N
ATOM    998  NH2 ARG A 138       1.864  21.767  43.709  1.00 47.70           N
ATOM    999  N   GLY A 139      -4.450  21.569  39.143  1.00 42.62           N
ATOM   1000  CA  GLY A 139      -4.371  22.871  38.504  1.00 41.93           C
ATOM   1001  C   GLY A 139      -3.389  23.820  39.174  1.00 41.28           C
ATOM   1002  O   GLY A 139      -3.607  25.030  39.196  1.00 41.58           O
ATOM   1003  N   GLY A 140      -2.291  23.292  39.703  1.00 40.31           N
ATOM   1004  CA  GLY A 140      -1.329  24.119  40.410  1.00 39.43           C
ATOM   1005  C   GLY A 140      -0.563  25.070  39.512  1.00 38.71           C
ATOM   1006  O   GLY A 140      -0.495  24.871  38.294  1.00 38.40           O
ATOM   1007  N   GLU A 141       0.003  26.117  40.110  1.00 37.82           N
ATOM   1008  CA  GLU A 141       0.829  27.066  39.363  1.00 37.20           C
ATOM   1009  C   GLU A 141       2.320  26.726  39.491  1.00 35.94           C
ATOM   1010  O   GLU A 141       3.160  27.356  38.845  1.00 35.76           O
ATOM   1011  CB  GLU A 141       0.590  28.510  39.828  1.00 37.63           C
ATOM   1012  CG  GLU A 141      -0.729  29.146  39.379  1.00 39.51           C
ATOM   1013  CD  GLU A 141      -0.936  29.164  37.866  1.00 41.63           C
ATOM   1014  OE1 GLU A 141       0.056  29.147  37.102  1.00 42.42           O
ATOM   1015  OE2 GLU A 141      -2.115  29.202  37.434  1.00 43.77           O
ATOM   1016  N   GLU A 142       2.652  25.742  40.326  1.00 34.29           N
ATOM   1017  CA  GLU A 142       4.045  25.351  40.510  1.00 33.08           C
ATOM   1018  C   GLU A 142       4.655  24.938  39.170  1.00 31.87           C
ATOM   1019  O   GLU A 142       3.958  24.443  38.296  1.00 31.87           O
ATOM   1020  CB  GLU A 142       4.170  24.201  41.519  1.00 32.96           C
ATOM   1021  CG  GLU A 142       5.610  23.914  41.942  1.00 32.71           C
ATOM   1022  CD  GLU A 142       5.761  22.730  42.896  1.00 33.55           C
ATOM   1023  OE1 GLU A 142       4.778  22.001  43.146  1.00 32.41           O
ATOM   1024  OE2 GLU A 142       6.888  22.520  43.398  1.00 34.13           O
ATOM   1025  N   ARG A 143       5.954  25.156  39.017  1.00 30.56           N
ATOM   1026  CA  ARG A 143       6.662  24.766  37.803  1.00 29.79           C
ATOM   1027  C   ARG A 143       7.878  23.939  38.142  1.00 28.70           C
ATOM   1028  O   ARG A 143       8.565  24.210  39.127  1.00 28.88           O
ATOM   1029  CB  ARG A 143       7.142  25.991  37.040  1.00 29.90           C
ATOM   1030  CG  ARG A 143       6.043  26.832  36.441  1.00 30.80           C
ATOM   1031  CD  ARG A 143       6.591  27.992  35.636  1.00 30.70           C
ATOM   1032  NE  ARG A 143       5.538  28.715  34.935  1.00 30.86           N
ATOM   1033  CZ  ARG A 143       5.168  28.487  33.682  1.00 29.53           C
ATOM   1034  NH1 ARG A 143       5.763  27.547  32.941  1.00 27.51           N
ATOM   1035  NH2 ARG A 143       4.196  29.216  33.168  1.00 30.04           N
ATOM   1036  N   LEU A 144       8.156  22.943  37.315  1.00 27.27           N
ATOM   1037  CA  LEU A 144       9.319  22.102  37.518  1.00 26.47           C
ATOM   1038  C   LEU A 144      10.220  22.148  36.297  1.00 25.40           C
ATOM   1039  O   LEU A 144       9.755  22.330  35.172  1.00 25.39           O
ATOM   1040  CB  LEU A 144       8.893  20.652  37.753  1.00 26.70           C
ATOM   1041  CG  LEU A 144       7.922  20.416  38.915  1.00 27.15           C
ATOM   1042  CD1 LEU A 144       7.575  18.921  39.059  1.00 27.40           C
ATOM   1043  CD2 LEU A 144       8.488  20.956  40.221  1.00 27.42           C
ATOM   1044  N   TYR A 145      11.511  21.974  36.527  1.00 23.90           N
ATOM   1045  CA  TYR A 145      12.458  21.871  35.441  1.00 23.15           C
ATOM   1046  C   TYR A 145      13.516  20.857  35.868  1.00 23.04           C
ATOM   1047  O   TYR A 145      14.328  21.130  36.740  1.00 22.58           O
ATOM   1048  CB  TYR A 145      13.080  23.235  35.107  1.00 23.01           C
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ATOM	1049	CG	TYR	A	145	13.522	23.419	33.666	1.00 21.34	C
ATOM	1050	CD1	TYR	A	145	13.824	22.333	32.863	1.00 20.11	C
ATOM	1051	CD2	TYR	A	145	13.662	24.691	33.119	1.00 21.14	C
ATOM	1052	CE1	TYR	A	145	14.219	22.494	31.563	1.00 20.22	C
ATOM	1053	CE2	TYR	A	145	14.075	24.866	31.807	1.00 19.81	C
ATOM	1054	CZ	TYR	A	145	14.349	23.764	31.027	1.00 19.19	C
ATOM	1055	OH	TYR	A	145	14.736	23.903	29.699	1.00 18.36	O
ATOM	1056	N	LEU	A	146	13.461	19.666	35.287	1.00 22.75	N
ATOM	1057	CA	LEU	A	146	14.490	18.661	35.516	1.00 23.17	C
ATOM	1058	C	LEU	A	146	15.720	19.005	34.679	1.00 22.99	C
ATOM	1059	O	LEU	A	146	15.604	19.264	33.490	1.00 22.81	O
ATOM	1060	CB	LEU	A	146	13.980	17.282	35.115	1.00 23.33	C
ATOM	1061	CG	LEU	A	146	14.992	16.141	35.274	1.00 24.98	C
ATOM	1062	CD1	LEU	A	146	14.276	14.846	35.622	1.00 24.56	C
ATOM	1063	CD2	LEU	A	146	15.849	15.946	34.016	1.00 26.13	C
ATOM	1064	N	GLN	A	147	16.891	18.983	35.299	1.00 23.05	N
ATOM	1065	CA	GLN	A	147	18.135	19.314	34.619	1.00 23.65	C
ATOM	1066	C	GLN	A	147	19.158	18.394	35.231	1.00 23.86	C
ATOM	1067	O	GLN	A	147	19.573	18.597	36.364	1.00 24.61	O
ATOM	1068	CB	GLN	A	147	18.516	20.793	34.821	1.00 23.53	C
ATOM	1069	CG	GLN	A	147	17.386	21.770	34.461	1.00 24.34	C
ATOM	1070	CD	GLN	A	147	17.800	23.238	34.482	1.00 26.20	C
ATOM	1071	OE1	GLN	A	147	17.034	24.114	34.035	1.00 29.67	O
ATOM	1072	NE2	GLN	A	147	18.979	23.514	34.988	1.00 21.33	N
ATOM	1073	N	GLN	A	148	19.542	17.369	34.485	1.00 24.35	N
ATOM	1074	CA	GLN	A	148	20.393	16.314	35.006	1.00 24.70	C
ATOM	1075	C	GLN	A	148	21.319	15.753	33.964	1.00 25.16	C
ATOM	1076	O	GLN	A	148	20.898	15.378	32.866	1.00 24.21	O
ATOM	1077	CB	GLN	A	148	19.525	15.172	35.526	1.00 24.97	C
ATOM	1078	CG	GLN	A	148	20.317	13.940	35.953	1.00 25.54	C
ATOM	1079	CD	GLN	A	148	21.275	14.256	37.085	1.00 26.98	C
ATOM	1080	OE1	GLN	A	148	20.892	14.941	38.042	1.00 26.73	O
ATOM	1081	NE2	GLN	A	148	22.522	13.786	36.976	1.00 26.37	N
ATOM	1082	N	THR	A	149	22.592	15.704	34.321	1.00 25.94	N
ATOM	1083	CA	THR	A	149	23.603	15.134	33.466	1.00 27.43	C
ATOM	1084	C	THR	A	149	23.369	13.632	33.324	1.00 27.29	C
ATOM	1085	O	THR	A	149	23.081	12.965	34.303	1.00 27.40	O
ATOM	1086	CB	THR	A	149	24.990	15.430	34.075	1.00 27.91	C
ATOM	1087	OG1	THR	A	149	25.282	16.829	33.901	1.00 30.41	O
ATOM	1088	CG2	THR	A	149	26.078	14.776	33.276	1.00 30.12	C
ATOM	1089	N	LEU	A	150	23.461	13.117	32.100	1.00 27.79	N
ATOM	1090	CA	LEU	A	150	23.321	11.690	31.832	1.00 28.02	C
ATOM	1091	C	LEU	A	150	24.549	10.935	32.364	1.00 28.42	C
ATOM	1092	O	LEU	A	150	25.682	11.261	32.002	1.00 28.86	O
ATOM	1093	CB	LEU	A	150	23.194	11.435	30.326	1.00 28.08	C
ATOM	1094	CG	LEU	A	150	21.929	11.937	29.622	1.00 28.70	C
ATOM	1095	CD1	LEU	A	150	22.016	11.725	28.117	1.00 28.62	C
ATOM	1096	CD2	LEU	A	150	20.697	11.260	30.175	1.00 29.47	C
ATOM	1097	N	ASN	A	151	24.332	9.928	33.203	1.00 28.58	N
ATOM	1098	CA	ASN	A	151	25.434	9.156	33.781	1.00 28.79	C
ATOM	1099	C	ASN	A	151	25.194	7.636	33.782	1.00 29.24	C
ATOM	1100	O	ASN	A	151	24.197	7.163	33.238	1.00 29.60	O
ATOM	1101	CB	ASN	A	151	25.657	9.631	35.208	1.00 28.77	C
ATOM	1102	CG	ASN	A	151	24.459	9.367	36.084	1.00 28.05	C
ATOM	1103	OD1	ASN	A	151	23.936	8.246	36.126	1.00 29.02	O
ATOM	1104	ND2	ASN	A	151	24.000	10.396	36.772	1.00 26.99	N
ATOM	1105	N	ASP	A	152	26.083	6.885	34.437	1.00 29.71	N
ATOM	1106	CA	ASP	A	152	26.039	5.410	34.448	1.00 30.06	C
ATOM	1107	C	ASP	A	152	24.850	4.733	35.075	1.00 29.51	C
ATOM	1108	O	ASP	A	152	24.771	3.503	35.026	1.00 28.98	O
ATOM	1109	CB	ASP	A	152	27.199	4.829	35.250	1.00 30.99	C

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ATOM   1110  CG  ASP A 152      28.447   5.561  35.048  1.00 33.80           C
ATOM   1111  OD1 ASP A 152      28.636   6.071  33.918  1.00 40.13           O
ATOM   1112  OD2 ASP A 152      29.274   5.719  35.960  1.00 35.65           O
ATOM   1113  N   THR A 153      23.959   5.468  35.722  1.00 28.96           N
ATOM   1114  CA  THR A 153      22.831   4.792  36.359  1.00 28.42           C
ATOM   1115  C   THR A 153      21.685   4.594  35.387  1.00 27.75           C
ATOM   1116  O   THR A 153      20.730   3.909  35.712  1.00 27.68           O
ATOM   1117  CB  THR A 153      22.330   5.552  37.584  1.00 28.53           C
ATOM   1118  OG1 THR A 153      21.833   6.836  37.193  1.00 28.91           O
ATOM   1119  CG2 THR A 153      23.473   5.855  38.540  1.00 29.18           C
ATOM   1120  N   VAL A 154      21.766   5.171  34.194  1.00 26.76           N
ATOM   1121  CA  VAL A 154      20.671   4.996  33.246  1.00 26.61           C
ATOM   1122  C   VAL A 154      20.583   3.531  32.895  1.00 26.77           C
ATOM   1123  O   VAL A 154      21.592   2.832  32.923  1.00 27.36           O
ATOM   1124  CB  VAL A 154      20.838   5.826  31.964  1.00 26.05           C
ATOM   1125  CG1 VAL A 154      20.914   7.279  32.312  1.00 26.14           C
ATOM   1126  CG2 VAL A 154      22.071   5.383  31.182  1.00 25.62           C
ATOM   1127  N   GLY A 155      19.379   3.072  32.568  1.00 26.71           N
ATOM   1128  CA  GLY A 155      19.147   1.674  32.252  1.00 26.42           C
ATOM   1129  C   GLY A 155      19.531   1.266  30.840  1.00 26.67           C
ATOM   1130  O   GLY A 155      19.894   2.093  29.983  1.00 26.52           O
ATOM   1131  N   ARG A 156      19.390  -0.028  30.599  1.00 26.49           N
ATOM   1132  CA  ARG A 156      19.811  -0.684  29.364  1.00 26.54           C
ATOM   1133  C   ARG A 156      19.305  -0.053  28.068  1.00 25.95           C
ATOM   1134  O   ARG A 156      20.089   0.194  27.160  1.00 26.26           O
ATOM   1135  CB  ARG A 156      19.429  -2.165  29.418  1.00 26.28           C
ATOM   1136  N   LYS A 157      18.004   0.175  27.964  1.00 25.43           N
ATOM   1137  CA  LYS A 157      17.460   0.777  26.756  1.00 25.11           C
ATOM   1138  C   LYS A 157      18.026   2.198  26.517  1.00 25.50           C
ATOM   1139  O   LYS A 157      18.249   2.595  25.372  1.00 25.14           O
ATOM   1140  CB  LYS A 157      15.927   0.796  26.809  1.00 24.88           C
ATOM   1141  CG  LYS A 157      15.255  -0.572  26.516  1.00 24.25           C
ATOM   1142  N   ILE A 158      18.257   2.956  27.585  1.00 25.35           N
ATOM   1143  CA  ILE A 158      18.766   4.326  27.432  1.00 25.61           C
ATOM   1144  C   ILE A 158      20.205   4.250  26.971  1.00 25.76           C
ATOM   1145  O   ILE A 158      20.661   5.058  26.166  1.00 25.39           O
ATOM   1146  CB  ILE A 158      18.662   5.107  28.740  1.00 25.41           C
ATOM   1147  CG1 ILE A 158      17.202   5.245  29.162  1.00 25.92           C
ATOM   1148  CG2 ILE A 158      19.297   6.475  28.601  1.00 25.61           C
ATOM   1149  CD1 ILE A 158      16.331   5.924  28.174  1.00 27.88           C
ATOM   1150  N   VAL A 159      20.909   3.251  27.481  1.00 26.10           N
ATOM   1151  CA  VAL A 159      22.276   3.010  27.079  1.00 26.57           C
ATOM   1152  C   VAL A 159      22.279   2.703  25.585  1.00 26.40           C
ATOM   1153  O   VAL A 159      23.074   3.248  24.840  1.00 26.32           O
ATOM   1154  CB  VAL A 159      22.895   1.850  27.883  1.00 26.94           C
ATOM   1155  CG1 VAL A 159      24.136   1.310  27.193  1.00 27.73           C
ATOM   1156  CG2 VAL A 159      23.223   2.308  29.298  1.00 26.73           C
ATOM   1157  N   MET A 160      21.363   1.852  25.145  1.00 26.48           N
ATOM   1158  CA  MET A 160      21.270   1.518  23.721  1.00 26.52           C
ATOM   1159  C   MET A 160      20.985   2.771  22.880  1.00 25.02           C
ATOM   1160  O   MET A 160      21.600   2.986  21.845  1.00 24.31           O
ATOM   1161  CB  MET A 160      20.183   0.476  23.485  1.00 27.05           C
ATOM   1162  CG  MET A 160      20.540  -0.900  24.001  1.00 30.45           C
ATOM   1163  SD  MET A 160      21.843  -1.730  23.058  1.00 34.87           S
ATOM   1164  CE  MET A 160      20.957  -2.028  21.496  1.00 36.94           C
ATOM   1165  N   ASP A 161      20.047   3.589  23.342  1.00 23.96           N
ATOM   1166  CA  ASP A 161      19.699   4.831  22.665  1.00 23.14           C
ATOM   1167  C   ASP A 161      20.890   5.781  22.550  1.00 21.93           C
ATOM   1168  O   ASP A 161      21.167   6.323  21.480  1.00 21.41           O
ATOM   1169  CB  ASP A 161      18.549   5.528  23.402  1.00 23.13           C
ATOM   1170  CG  ASP A 161      17.250   4.762  23.293  1.00 24.08           C
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ATOM   1171  OD1 ASP A 161      17.182   3.812  22.478  1.00 21.27           O
ATOM   1172  OD2 ASP A 161      16.248   5.035  23.980  1.00 25.87           O
ATOM   1173  N   PHE A 162      21.575   5.973  23.671  1.00 20.59           N
ATOM   1174  CA  PHE A 162      22.712   6.859  23.765  1.00 19.97           C
ATOM   1175  C   PHE A 162      23.802   6.409  22.809  1.00 19.19           C
ATOM   1176  O   PHE A 162      24.410   7.213  22.160  1.00 18.98           O
ATOM   1177  CB  PHE A 162      23.223   6.859  25.220  1.00 20.44           C
ATOM   1178  CG  PHE A 162      24.386   7.755  25.470  1.00 20.78           C
ATOM   1179  CD1 PHE A 162      24.206   9.107  25.673  1.00 25.50           C
ATOM   1180  CD2 PHE A 162      25.662   7.245  25.542  1.00 23.71           C
ATOM   1181  CE1 PHE A 162      25.290   9.930  25.935  1.00 25.85           C
ATOM   1182  CE2 PHE A 162      26.755   8.072  25.795  1.00 24.89           C
ATOM   1183  CZ  PHE A 162      26.572   9.394  26.001  1.00 23.50           C
ATOM   1184  N   LEU A 163      24.062   5.115  22.744  1.00 19.25           N
ATOM   1185  CA  LEU A 163      25.084   4.597  21.838  1.00 19.42           C
ATOM   1186  C   LEU A 163      24.715   4.804  20.361  1.00 18.63           C
ATOM   1187  O   LEU A 163      25.585   4.831  19.493  1.00 18.21           O
ATOM   1188  CB  LEU A 163      25.297   3.115  22.104  1.00 19.49           C
ATOM   1189  CG  LEU A 163      25.988   2.812  23.422  1.00 20.88           C
ATOM   1190  CD1 LEU A 163      25.980   1.319  23.651  1.00 22.44           C
ATOM   1191  CD2 LEU A 163      27.407   3.368  23.396  1.00 21.73           C
ATOM   1192  N   GLY A 164      23.419   4.917  20.104  1.00 18.01           N
ATOM   1193  CA  GLY A 164      22.889   5.158  18.779  1.00 18.55           C
ATOM   1194  C   GLY A 164      22.873   6.622  18.355  1.00 18.40           C
ATOM   1195  O   GLY A 164      22.406   6.921  17.256  1.00 19.24           O
ATOM   1196  N   PHE A 165      23.365   7.521  19.209  1.00 17.50           N
ATOM   1197  CA  PHE A 165      23.493   8.913  18.831  1.00 17.67           C
ATOM   1198  C   PHE A 165      24.497   8.955  17.663  1.00 17.49           C
ATOM   1199  O   PHE A 165      25.293   8.028  17.497  1.00 16.10           O
ATOM   1200  CB  PHE A 165      23.984   9.753  20.018  1.00 17.47           C
ATOM   1201  CG  PHE A 165      22.932  10.004  21.098  1.00 18.51           C
ATOM   1202  CD1 PHE A 165      21.645   9.479  21.009  1.00 19.26           C
ATOM   1203  CD2 PHE A 165      23.242  10.784  22.203  1.00 18.52           C
ATOM   1204  CE1 PHE A 165      20.697   9.730  21.996  1.00 18.44           C
ATOM   1205  CE2 PHE A 165      22.303  11.030  23.199  1.00 18.52           C
ATOM   1206  CZ  PHE A 165      21.032  10.500  23.100  1.00 18.90           C
ATOM   1207  N   ASN A 166      24.466  10.009  16.854  1.00 17.77           N
ATOM   1208  CA  ASN A 166      25.393  10.110  15.712  1.00 18.29           C
ATOM   1209  C   ASN A 166      26.787  10.622  16.129  1.00 18.73           C
ATOM   1210  O   ASN A 166      27.156  11.795  15.897  1.00 19.54           O
ATOM   1211  CB  ASN A 166      24.793  10.972  14.598  1.00 17.92           C
ATOM   1212  CG  ASN A 166      25.571  10.861  13.293  1.00 17.28           C
ATOM   1213  OD1 ASN A 166      26.679  10.289  13.262  1.00 16.53           O
ATOM   1214  ND2 ASN A 166      24.994  11.395  12.204  1.00 12.92           N
ATOM   1215  N   TRP A 167      27.527   9.739  16.789  1.00 19.26           N
ATOM   1216  CA  TRP A 167      28.867  10.035  17.264  1.00 19.76           C
ATOM   1217  C   TRP A 167      29.785  10.266  16.084  1.00 19.88           C
ATOM   1218  O   TRP A 167      30.731  11.031  16.169  1.00 19.35           O
ATOM   1219  CB  TRP A 167      29.384   8.864  18.130  1.00 19.92           C
ATOM   1220  CG  TRP A 167      28.556   8.728  19.351  1.00 20.39           C
ATOM   1221  CD1 TRP A 167      27.686   7.727  19.656  1.00 20.85           C
ATOM   1222  CD2 TRP A 167      28.445   9.686  20.400  1.00 20.99           C
ATOM   1223  NE1 TRP A 167      27.059   7.995  20.851  1.00 21.18           N
ATOM   1224  CE2 TRP A 167      27.509   9.194  21.325  1.00 20.70           C
ATOM   1225  CE3 TRP A 167      29.065  10.916  20.664  1.00 21.55           C
ATOM   1226  CZ2 TRP A 167      27.183   9.871  22.488  1.00 22.63           C
ATOM   1227  CZ3 TRP A 167      28.731  11.589  21.804  1.00 21.78           C
ATOM   1228  CH2 TRP A 167      27.789  11.071  22.706  1.00 22.79           C
ATOM   1229  N   ASN A 168      29.529   9.577  14.979  1.00 20.07           N
ATOM   1230  CA  ASN A 168      30.374   9.759  13.818  1.00 20.50           C
ATOM   1231  C   ASN A 168      30.396  11.237  13.421  1.00 20.67           C
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ATOM   1232  O   ASN A 168      31.465  11.806  13.207  1.00 19.54           O
ATOM   1233  CB  ASN A 168      29.917   8.930  12.628  1.00 20.87           C
ATOM   1234  CG  ASN A 168      30.818   9.129  11.423  1.00 22.96           C
ATOM   1235  OD1 ASN A 168      32.027   8.923  11.522  1.00 25.54           O
ATOM   1236  ND2 ASN A 168      30.247   9.578  10.295  1.00 23.09           N
ATOM   1237  N   TRP A 169      29.211  11.844  13.338  1.00 20.57           N
ATOM   1238  CA  TRP A 169      29.106  13.226  12.917  1.00 20.23           C
ATOM   1239  C   TRP A 169      29.653  14.188  13.972  1.00 20.59           C
ATOM   1240  O   TRP A 169      30.367  15.118  13.634  1.00 20.09           O
ATOM   1241  CB  TRP A 169      27.662  13.618  12.570  1.00 20.35           C
ATOM   1242  CG  TRP A 169      27.542  15.101  12.238  1.00 19.49           C
ATOM   1243  CD1 TRP A 169      27.769  15.693  11.026  1.00 19.03           C
ATOM   1244  CD2 TRP A 169      27.203  16.157  13.137  1.00 20.25           C
ATOM   1245  NE1 TRP A 169      27.578  17.052  11.117  1.00 20.36           N
ATOM   1246  CE2 TRP A 169      27.244  17.366  12.406  1.00 19.45           C
ATOM   1247  CE3 TRP A 169      26.874  16.207  14.492  1.00 20.60           C
ATOM   1248  CZ2 TRP A 169      26.964  18.600  12.975  1.00 21.03           C
ATOM   1249  CZ3 TRP A 169      26.614  17.433  15.064  1.00 23.09           C
ATOM   1250  CH2 TRP A 169      26.649  18.621  14.297  1.00 23.61           C
ATOM   1251  N   ILE A 170      29.326  13.979  15.239  1.00 20.47           N
ATOM   1252  CA  ILE A 170      29.759  14.926  16.241  1.00 20.67           C
ATOM   1253  C   ILE A 170      31.262  14.772  16.567  1.00 21.18           C
ATOM   1254  O   ILE A 170      31.943  15.758  16.836  1.00 21.20           O
ATOM   1255  CB  ILE A 170      28.842  14.892  17.483  1.00 20.61           C
ATOM   1256  CG1 ILE A 170      28.900  16.231  18.221  1.00 20.05           C
ATOM   1257  CG2 ILE A 170      29.191  13.755  18.402  1.00 19.89           C
ATOM   1258  CD1 ILE A 170      27.865  16.353  19.329  1.00 21.00           C
ATOM   1259  N   ASN A 171      31.780  13.556  16.527  1.00 20.74           N
ATOM   1260  CA  ASN A 171      33.214  13.355  16.715  1.00 21.80           C
ATOM   1261  C   ASN A 171      34.024  14.093  15.634  1.00 22.34           C
ATOM   1262  O   ASN A 171      35.093  14.652  15.916  1.00 21.98           O
ATOM   1263  CB  ASN A 171      33.581  11.857  16.718  1.00 21.55           C
ATOM   1264  CG  ASN A 171      33.111  11.124  17.981  1.00 21.20           C
ATOM   1265  OD1 ASN A 171      32.637  11.724  18.963  1.00 21.35           O
ATOM   1266  ND2 ASN A 171      33.263   9.830  17.962  1.00 19.36           N
ATOM   1267  N   LYS A 172      33.529  14.097  14.400  1.00 22.97           N
ATOM   1268  CA  LYS A 172      34.218  14.847  13.353  1.00 24.09           C
ATOM   1269  C   LYS A 172      34.167  16.342  13.656  1.00 23.61           C
ATOM   1270  O   LYS A 172      35.166  17.041  13.511  1.00 23.54           O
ATOM   1271  CB  LYS A 172      33.669  14.529  11.961  1.00 24.58           C
ATOM   1272  CG  LYS A 172      34.087  13.163  11.491  1.00 27.56           C
ATOM   1273  CD  LYS A 172      33.653  12.852  10.034  1.00 31.03           C
ATOM   1274  CE  LYS A 172      34.323  11.576   9.565  1.00 33.01           C
ATOM   1275  NZ  LYS A 172      34.357  11.406   8.070  1.00 36.89           N
ATOM   1276  N   GLN A 173      33.019  16.834  14.109  1.00 23.74           N
ATOM   1277  CA  GLN A 173      32.914  18.245  14.482  1.00 23.87           C
ATOM   1278  C   GLN A 173      33.960  18.578  15.547  1.00 23.86           C
ATOM   1279  O   GLN A 173      34.739  19.500  15.374  1.00 24.25           O
ATOM   1280  CB  GLN A 173      31.517  18.590  14.993  1.00 23.63           C
ATOM   1281  CG  GLN A 173      30.451  18.619  13.916  1.00 24.53           C
ATOM   1282  CD  GLN A 173      30.753  19.634  12.851  1.00 25.08           C
ATOM   1283  OE1 GLN A 173      31.194  20.740  13.157  1.00 26.69           O
ATOM   1284  NE2 GLN A 173      30.512  19.273  11.601  1.00 23.36           N
ATOM   1285  N   GLN A 174      33.963  17.822  16.635  1.00 23.63           N
ATOM   1286  CA  GLN A 174      34.925  17.995  17.717  1.00 23.91           C
ATOM   1287  C   GLN A 174      36.365  18.053  17.161  1.00 24.01           C
ATOM   1288  O   GLN A 174      37.133  18.962  17.480  1.00 23.39           O
ATOM   1289  CB  GLN A 174      34.783  16.840  18.717  1.00 23.67           C
ATOM   1290  CG  GLN A 174      35.688  16.913  19.934  1.00 24.07           C
ATOM   1291  CD  GLN A 174      35.595  15.668  20.799  1.00 25.12           C
ATOM   1292  OE1 GLN A 174      35.229  14.602  20.312  1.00 25.70           O
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ATOM	1293	NE2	GLN	A	174	35.901	15.803	22.084	1.00	23.63	N
ATOM	1294	N	GLY	A	175	36.706	17.080	16.334	1.00	23.75	N
ATOM	1295	CA	GLY	A	175	38.005	17.028	15.696	1.00	24.73	C
ATOM	1296	C	GLY	A	175	38.268	18.209	14.768	1.00	25.21	C
ATOM	1297	O	GLY	A	175	39.310	18.842	14.854	1.00	25.60	O
ATOM	1298	N	LYS	A	176	37.327	18.518	13.888	1.00	25.81	N
ATOM	1299	CA	LYS	A	176	37.491	19.634	12.961	1.00	26.88	C
ATOM	1300	C	LYS	A	176	37.719	20.997	13.638	1.00	26.95	C
ATOM	1301	O	LYS	A	176	38.490	21.803	13.136	1.00	26.74	O
ATOM	1302	CB	LYS	A	176	36.256	19.778	12.077	1.00	27.35	C
ATOM	1303	CG	LYS	A	176	36.093	18.716	11.009	1.00	29.87	C
ATOM	1304	CD	LYS	A	176	34.894	19.085	10.137	1.00	33.21	C
ATOM	1305	CE	LYS	A	176	33.948	17.932	9.961	1.00	35.30	C
ATOM	1306	NZ	LYS	A	176	32.558	18.388	9.643	1.00	37.22	N
ATOM	1307	N	ARG	A	177	37.031	21.257	14.749	1.00	26.93	N
ATOM	1308	CA	ARG	A	177	37.153	22.539	15.435	1.00	27.36	C
ATOM	1309	C	ARG	A	177	38.241	22.611	16.509	1.00	26.63	C
ATOM	1310	O	ARG	A	177	38.402	23.650	17.135	1.00	25.85	O
ATOM	1311	CB	ARG	A	177	35.832	22.902	16.114	1.00	27.86	C
ATOM	1312	CG	ARG	A	177	34.625	22.712	15.267	1.00	29.88	C
ATOM	1313	CD	ARG	A	177	34.653	23.460	13.973	1.00	32.39	C
ATOM	1314	NE	ARG	A	177	33.683	22.854	13.084	1.00	34.54	N
ATOM	1315	CZ	ARG	A	177	33.841	22.701	11.790	1.00	37.31	C
ATOM	1316	NH1	ARG	A	177	34.952	23.110	11.189	1.00	38.34	N
ATOM	1317	NH2	ARG	A	177	32.877	22.126	11.088	1.00	38.88	N
ATOM	1318	N	GLY	A	178	38.950	21.510	16.743	1.00	26.35	N
ATOM	1319	CA	GLY	A	178	39.998	21.470	17.753	1.00	25.46	C
ATOM	1320	C	GLY	A	178	39.473	21.514	19.176	1.00	25.27	C
ATOM	1321	O	GLY	A	178	40.213	21.818	20.123	1.00	25.46	O
ATOM	1322	N	TRP	A	179	38.199	21.202	19.359	1.00	24.30	N
ATOM	1323	CA	TRP	A	179	37.639	21.260	20.692	1.00	24.02	C
ATOM	1324	C	TRP	A	179	38.290	20.266	21.638	1.00	23.85	C
ATOM	1325	O	TRP	A	179	38.958	19.333	21.226	1.00	22.62	O
ATOM	1326	CB	TRP	A	179	36.136	21.011	20.674	1.00	23.73	C
ATOM	1327	CG	TRP	A	179	35.346	22.061	19.962	1.00	23.92	C
ATOM	1328	CD1	TRP	A	179	35.787	23.291	19.531	1.00	22.69	C
ATOM	1329	CD2	TRP	A	179	33.968	21.981	19.594	1.00	23.74	C
ATOM	1330	NE1	TRP	A	179	34.765	23.968	18.912	1.00	24.45	N
ATOM	1331	CE2	TRP	A	179	33.636	23.183	18.929	1.00	24.47	C
ATOM	1332	CE3	TRP	A	179	32.984	21.002	19.730	1.00	23.10	C
ATOM	1333	CZ2	TRP	A	179	32.379	23.422	18.414	1.00	23.69	C
ATOM	1334	CZ3	TRP	A	179	31.733	21.241	19.211	1.00	21.89	C
ATOM	1335	CH2	TRP	A	179	31.435	22.445	18.573	1.00	23.90	C
ATOM	1336	N	GLY	A	180	38.080	20.499	22.925	1.00	24.08	N
ATOM	1337	CA	GLY	A	180	38.488	19.558	23.941	1.00	24.08	C
ATOM	1338	C	GLY	A	180	37.437	18.476	24.103	1.00	24.64	C
ATOM	1339	O	GLY	A	180	36.618	18.234	23.202	1.00	24.66	O
ATOM	1340	N	GLN	A	181	37.437	17.830	25.261	1.00	24.77	N
ATOM	1341	CA	GLN	A	181	36.575	16.682	25.471	1.00	25.23	C
ATOM	1342	C	GLN	A	181	35.117	17.039	25.725	1.00	24.50	C
ATOM	1343	O	GLN	A	181	34.779	18.151	26.149	1.00	24.42	O
ATOM	1344	CB	GLN	A	181	37.094	15.847	26.646	1.00	25.76	C
ATOM	1345	CG	GLN	A	181	36.720	16.409	28.025	1.00	28.85	C
ATOM	1346	CD	GLN	A	181	37.046	15.434	29.156	1.00	33.38	C
ATOM	1347	OE1	GLN	A	181	38.186	15.003	29.293	1.00	36.10	O
ATOM	1348	NE2	GLN	A	181	36.044	15.085	29.958	1.00	36.04	N
ATOM	1349	N	LEU	A	182	34.262	16.078	25.423	1.00	23.71	N
ATOM	1350	CA	LEU	A	182	32.857	16.110	25.792	1.00	23.70	C
ATOM	1351	C	LEU	A	182	32.876	16.040	27.317	1.00	22.68	C
ATOM	1352	O	LEU	A	182	33.406	15.079	27.849	1.00	21.72	O
ATOM	1353	CB	LEU	A	182	32.179	14.836	25.273	1.00	23.82	C

ATOM	1354	CG	LEU	A	182	30.661	14.693	25.199	1.00 26.38	C
ATOM	1355	CD1	LEU	A	182	30.243	13.231	25.368	1.00 26.04	C
ATOM	1356	CD2	LEU	A	182	29.977	15.501	26.192	1.00 29.73	C
ATOM	1357	N	THR	A	183	32.323	17.031	28.021	1.00 21.93	N
ATOM	1358	CA	THR	A	183	32.300	16.971	29.484	1.00 21.44	C
ATOM	1359	C	THR	A	183	31.004	16.388	29.984	1.00 21.27	C
ATOM	1360	O	THR	A	183	30.972	15.766	31.032	1.00 21.29	O
ATOM	1361	CB	THR	A	183	32.490	18.362	30.150	1.00 21.73	C
ATOM	1362	OG1	THR	A	183	31.463	19.257	29.715	1.00 20.35	O
ATOM	1363	CG2	THR	A	183	33.796	19.015	29.725	1.00 20.91	C
ATOM	1364	N	SER	A	184	29.918	16.590	29.251	1.00 21.42	N
ATOM	1365	CA	SER	A	184	28.649	16.053	29.689	1.00 21.45	C
ATOM	1366	C	SER	A	184	27.537	16.272	28.714	1.00 21.46	C
ATOM	1367	O	SER	A	184	27.672	17.031	27.753	1.00 21.17	O
ATOM	1368	CB	SER	A	184	28.243	16.687	31.006	1.00 21.74	C
ATOM	1369	OG	SER	A	184	27.919	18.049	30.845	1.00 23.24	O
ATOM	1370	N	ASN	A	185	26.445	15.575	28.982	1.00 21.21	N
ATOM	1371	CA	ASN	A	185	25.216	15.712	28.245	1.00 22.29	C
ATOM	1372	C	ASN	A	185	24.154	16.005	29.273	1.00 22.08	C
ATOM	1373	O	ASN	A	185	23.886	15.184	30.135	1.00 22.25	O
ATOM	1374	CB	ASN	A	185	24.856	14.416	27.497	1.00 22.67	C
ATOM	1375	CG	ASN	A	185	25.885	14.037	26.454	1.00 23.57	C
ATOM	1376	OD1	ASN	A	185	26.646	13.097	26.655	1.00 27.51	O
ATOM	1377	ND2	ASN	A	185	25.905	14.754	25.329	1.00 24.27	N
ATOM	1378	N	LEU	A	186	23.574	17.189	29.202	1.00 22.01	N
ATOM	1379	CA	LEU	A	186	22.529	17.563	30.135	1.00 22.03	C
ATOM	1380	C	LEU	A	186	21.170	17.219	29.558	1.00 22.00	C
ATOM	1381	O	LEU	A	186	20.844	17.592	28.435	1.00 22.34	O
ATOM	1382	CB	LEU	A	186	22.578	19.065	30.423	1.00 21.68	C
ATOM	1383	CG	LEU	A	186	21.707	19.538	31.588	1.00 22.25	C
ATOM	1384	CD1	LEU	A	186	22.252	18.985	32.891	1.00 22.43	C
ATOM	1385	CD2	LEU	A	186	21.643	21.098	31.648	1.00 23.35	C
ATOM	1386	N	LEU	A	187	20.377	16.518	30.344	1.00 22.19	N
ATOM	1387	CA	LEU	A	187	19.009	16.198	29.979	1.00 21.95	C
ATOM	1388	C	LEU	A	187	18.149	17.286	30.603	1.00 21.91	C
ATOM	1389	O	LEU	A	187	18.232	17.521	31.823	1.00 21.61	O
ATOM	1390	CB	LEU	A	187	18.616	14.830	30.527	1.00 21.55	C
ATOM	1391	CG	LEU	A	187	17.129	14.488	30.477	1.00 22.78	C
ATOM	1392	CD1	LEU	A	187	16.616	14.429	29.054	1.00 23.66	C
ATOM	1393	CD2	LEU	A	187	16.866	13.143	31.174	1.00 22.84	C
ATOM	1394	N	LEU	A	188	17.348	17.956	29.770	1.00 21.56	N
ATOM	1395	CA	LEU	A	188	16.461	19.000	30.227	1.00 22.26	C
ATOM	1396	C	LEU	A	188	14.993	18.662	29.920	1.00 22.55	C
ATOM	1397	O	LEU	A	188	14.588	18.517	28.760	1.00 23.16	O
ATOM	1398	CB	LEU	A	188	16.827	20.327	29.562	1.00 22.84	C
ATOM	1399	CG	LEU	A	188	18.244	20.840	29.821	1.00 22.60	C
ATOM	1400	CD1	LEU	A	188	18.967	21.111	28.523	1.00 23.92	C
ATOM	1401	CD2	LEU	A	188	18.177	22.088	30.655	1.00 24.56	C
ATOM	1402	N	ILE	A	189	14.181	18.577	30.958	1.00 22.15	N
ATOM	1403	CA	ILE	A	189	12.769	18.315	30.756	1.00 22.34	C
ATOM	1404	C	ILE	A	189	11.996	19.395	31.460	1.00 22.37	C
ATOM	1405	O	ILE	A	189	12.072	19.528	32.692	1.00 22.77	O
ATOM	1406	CB	ILE	A	189	12.377	16.953	31.281	1.00 21.60	C
ATOM	1407	CG1	ILE	A	189	13.254	15.888	30.638	1.00 21.85	C
ATOM	1408	CG2	ILE	A	189	10.928	16.708	30.958	1.00 22.51	C
ATOM	1409	CD1	ILE	A	189	12.918	14.425	31.075	1.00 23.06	C
ATOM	1410	N	GLY	A	190	11.276	20.186	30.673	1.00 22.37	N
ATOM	1411	CA	GLY	A	190	10.587	21.336	31.206	1.00 22.29	C
ATOM	1412	C	GLY	A	190	9.124	21.342	30.902	1.00 22.48	C
ATOM	1413	O	GLY	A	190	8.652	20.633	30.007	1.00 22.39	O
ATOM	1414	N	MET	A	191	8.402	22.134	31.687	1.00 22.74	N

ATOM	1415	CA	MET	A	191	6.991	22.339	31.467	1.00 23.16	C
ATOM	1416	C	MET	A	191	6.838	23.482	30.478	1.00 22.94	C
ATOM	1417	O	MET	A	191	7.738	24.329	30.338	1.00 23.03	O
ATOM	1418	CB	MET	A	191	6.283	22.673	32.784	1.00 23.69	C
ATOM	1419	CG	MET	A	191	6.224	21.513	33.741	1.00 25.02	C
ATOM	1420	SD	MET	A	191	5.664	21.927	35.415	1.00 28.11	S
ATOM	1421	CE	MET	A	191	4.016	22.460	35.097	1.00 28.35	C
ATOM	1422	N	GLU	A	192	5.712	23.492	29.773	1.00 22.60	N
ATOM	1423	CA	GLU	A	192	5.410	24.544	28.810	1.00 22.83	C
ATOM	1424	C	GLU	A	192	5.495	25.895	29.490	1.00 22.51	C
ATOM	1425	O	GLU	A	192	5.062	26.046	30.614	1.00 22.41	O
ATOM	1426	CB	GLU	A	192	4.005	24.342	28.249	1.00 22.86	C
ATOM	1427	CG	GLU	A	192	2.925	24.367	29.315	1.00 24.36	C
ATOM	1428	CD	GLU	A	192	1.572	23.891	28.814	1.00 25.71	C
ATOM	1429	OE1	GLU	A	192	1.503	23.294	27.718	1.00 25.51	O
ATOM	1430	OE2	GLU	A	192	0.582	24.128	29.525	1.00 26.30	O
ATOM	1431	N	GLY	A	193	6.069	26.888	28.828	1.00 22.95	N
ATOM	1432	CA	GLY	A	193	6.185	28.199	29.444	1.00 22.50	C
ATOM	1433	C	GLY	A	193	7.465	28.414	30.254	1.00 22.36	C
ATOM	1434	O	GLY	A	193	7.756	29.544	30.602	1.00 23.08	O
ATOM	1435	N	ASN	A	194	8.219	27.361	30.566	1.00 21.60	N
ATOM	1436	CA	ASN	A	194	9.456	27.506	31.341	1.00 21.44	C
ATOM	1437	C	ASN	A	194	10.489	28.320	30.581	1.00 21.19	C
ATOM	1438	O	ASN	A	194	10.635	28.134	29.372	1.00 22.08	O
ATOM	1439	CB	ASN	A	194	10.099	26.147	31.629	1.00 21.05	C
ATOM	1440	CG	ASN	A	194	9.494	25.435	32.801	1.00 20.86	C
ATOM	1441	OD1	ASN	A	194	8.509	25.883	33.385	1.00 22.48	O
ATOM	1442	ND2	ASN	A	194	10.092	24.312	33.167	1.00 17.74	N
ATOM	1443	N	VAL	A	195	11.213	29.183	31.290	1.00 20.69	N
ATOM	1444	CA	VAL	A	195	12.268	29.993	30.701	1.00 20.84	C
ATOM	1445	C	VAL	A	195	13.572	29.854	31.450	1.00 20.06	C
ATOM	1446	O	VAL	A	195	13.601	29.874	32.681	1.00 20.75	O
ATOM	1447	CB	VAL	A	195	11.903	31.502	30.686	1.00 21.41	C
ATOM	1448	CG1	VAL	A	195	13.081	32.357	30.219	1.00 22.24	C
ATOM	1449	CG2	VAL	A	195	10.666	31.767	29.843	1.00 22.30	C
ATOM	1450	N	THR	A	196	14.651	29.673	30.702	1.00 19.51	N
ATOM	1451	CA	THR	A	196	15.993	29.737	31.257	1.00 19.52	C
ATOM	1452	C	THR	A	196	16.487	31.117	30.820	1.00 19.98	C
ATOM	1453	O	THR	A	196	16.653	31.352	29.620	1.00 19.56	O
ATOM	1454	CB	THR	A	196	16.896	28.677	30.675	1.00 19.26	C
ATOM	1455	OG1	THR	A	196	16.526	27.366	31.162	1.00 21.13	O
ATOM	1456	CG2	THR	A	196	18.309	28.886	31.185	1.00 19.85	C
ATOM	1457	N	PRO	A	197	16.627	32.043	31.767	1.00 20.27	N
ATOM	1458	CA	PRO	A	197	17.046	33.412	31.463	1.00 20.52	C
ATOM	1459	C	PRO	A	197	18.431	33.497	30.836	1.00 20.89	C
ATOM	1460	O	PRO	A	197	19.277	32.609	31.025	1.00 20.66	O
ATOM	1461	CB	PRO	A	197	17.018	34.099	32.825	1.00 21.22	C
ATOM	1462	CG	PRO	A	197	16.144	33.263	33.657	1.00 21.01	C
ATOM	1463	CD	PRO	A	197	16.309	31.872	33.189	1.00 20.28	C
ATOM	1464	N	ALA	A	198	18.633	34.577	30.089	1.00 20.28	N
ATOM	1465	CA	ALA	A	198	19.841	34.817	29.341	1.00 20.22	C
ATOM	1466	C	ALA	A	198	21.130	34.634	30.146	1.00 20.58	C
ATOM	1467	O	ALA	A	198	21.284	35.186	31.235	1.00 19.91	O
ATOM	1468	CB	ALA	A	198	19.791	36.222	28.759	1.00 20.52	C
ATOM	1469	N	HIS	A	199	22.062	33.891	29.563	1.00 20.87	N
ATOM	1470	CA	HIS	A	199	23.371	33.646	30.158	1.00 21.41	C
ATOM	1471	C	HIS	A	199	24.281	33.168	29.063	1.00 21.82	C
ATOM	1472	O	HIS	A	199	23.826	32.892	27.943	1.00 21.80	O
ATOM	1473	CB	HIS	A	199	23.305	32.534	31.198	1.00 21.44	C
ATOM	1474	CG	HIS	A	199	22.915	31.220	30.617	1.00 22.21	C
ATOM	1475	ND1	HIS	A	199	21.619	30.940	30.253	1.00 21.93	N

ATOM	1476	CD2	HIS	A	199	23.644	30.120	30.296	1.00	22.04	C
ATOM	1477	CE1	HIS	A	199	21.561	29.721	29.749	1.00	23.76	C
ATOM	1478	NE2	HIS	A	199	22.777	29.214	29.737	1.00	22.57	N
ATOM	1479	N	TYR	A	200	25.568	33.060	29.384	1.00	22.40	N
ATOM	1480	CA	TYR	A	200	26.536	32.456	28.469	1.00	22.34	C
ATOM	1481	C	TYR	A	200	27.225	31.316	29.197	1.00	22.03	C
ATOM	1482	O	TYR	A	200	27.328	31.330	30.425	1.00	21.90	O
ATOM	1483	CB	TYR	A	200	27.544	33.458	27.924	1.00	22.22	C
ATOM	1484	CG	TYR	A	200	28.517	34.051	28.924	1.00	22.16	C
ATOM	1485	CD1	TYR	A	200	29.746	33.454	29.171	1.00	21.36	C
ATOM	1486	CD2	TYR	A	200	28.236	35.246	29.565	1.00	22.58	C
ATOM	1487	CE1	TYR	A	200	30.638	33.997	30.052	1.00	21.48	C
ATOM	1488	CE2	TYR	A	200	29.128	35.806	30.462	1.00	21.46	C
ATOM	1489	CZ	TYR	A	200	30.334	35.189	30.695	1.00	22.03	C
ATOM	1490	OH	TYR	A	200	31.230	35.733	31.593	1.00	20.69	O
ATOM	1491	N	ASP	A	201	27.681	30.310	28.444	1.00	22.42	N
ATOM	1492	CA	ASP	A	201	28.381	29.152	29.048	1.00	22.10	C
ATOM	1493	C	ASP	A	201	29.801	29.142	28.531	1.00	21.96	C
ATOM	1494	O	ASP	A	201	30.018	29.601	27.433	1.00	22.26	O
ATOM	1495	CB	ASP	A	201	27.722	27.840	28.661	1.00	21.97	C
ATOM	1496	CG	ASP	A	201	26.311	27.714	29.181	1.00	21.99	C
ATOM	1497	OD1	ASP	A	201	26.126	27.649	30.421	1.00	22.61	O
ATOM	1498	OD2	ASP	A	201	25.330	27.624	28.412	1.00	19.35	O
ATOM	1499	N	GLU	A	202	30.769	28.620	29.283	1.00	21.66	N
ATOM	1500	CA	GLU	A	202	32.146	28.612	28.773	1.00	23.16	C
ATOM	1501	C	GLU	A	202	32.515	27.334	28.035	1.00	23.38	C
ATOM	1502	O	GLU	A	202	33.684	26.951	28.049	1.00	25.48	O
ATOM	1503	CB	GLU	A	202	33.178	28.774	29.897	1.00	23.46	C
ATOM	1504	CG	GLU	A	202	33.110	30.064	30.681	1.00	26.52	C
ATOM	1505	CD	GLU	A	202	34.233	30.132	31.704	1.00	28.11	C
ATOM	1506	OE1	GLU	A	202	34.207	29.387	32.698	1.00	29.06	O
ATOM	1507	OE2	GLU	A	202	35.148	30.920	31.490	1.00	31.04	O
ATOM	1508	N	GLN	A	203	31.538	26.632	27.476	1.00	22.70	N
ATOM	1509	CA	GLN	A	203	31.808	25.451	26.685	1.00	22.01	C
ATOM	1510	C	GLN	A	203	31.049	25.576	25.373	1.00	21.93	C
ATOM	1511	O	GLN	A	203	30.113	26.378	25.253	1.00	22.49	O
ATOM	1512	CB	GLN	A	203	31.409	24.169	27.427	1.00	22.02	C
ATOM	1513	CG	GLN	A	203	32.287	23.822	28.657	1.00	22.33	C
ATOM	1514	CD	GLN	A	203	32.103	22.379	29.165	1.00	23.14	C
ATOM	1515	OE1	GLN	A	203	31.948	21.448	28.370	1.00	21.46	O
ATOM	1516	NE2	GLN	A	203	32.138	22.203	30.489	1.00	21.21	N
ATOM	1517	N	GLN	A	204	31.486	24.807	24.380	1.00	21.81	N
ATOM	1518	CA	GLN	A	204	30.806	24.720	23.092	1.00	21.45	C
ATOM	1519	C	GLN	A	204	29.610	23.799	23.295	1.00	21.12	C
ATOM	1520	O	GLN	A	204	29.673	22.862	24.088	1.00	20.29	O
ATOM	1521	CB	GLN	A	204	31.740	24.140	22.040	1.00	21.75	C
ATOM	1522	CG	GLN	A	204	33.033	24.928	21.852	1.00	21.56	C
ATOM	1523	CD	GLN	A	204	32.856	26.198	21.000	1.00	21.57	C
ATOM	1524	OE1	GLN	A	204	31.741	26.609	20.692	1.00	20.30	O
ATOM	1525	NE2	GLN	A	204	33.966	26.776	20.594	1.00	18.60	N
ATOM	1526	N	ASN	A	205	28.522	24.060	22.580	1.00	21.25	N
ATOM	1527	CA	ASN	A	205	27.291	23.316	22.795	1.00	21.04	C
ATOM	1528	C	ASN	A	205	26.529	22.977	21.526	1.00	21.25	C
ATOM	1529	O	ASN	A	205	26.160	23.880	20.747	1.00	20.22	O
ATOM	1530	CB	ASN	A	205	26.387	24.194	23.654	1.00	21.95	C
ATOM	1531	CG	ASN	A	205	25.116	23.507	24.098	1.00	21.98	C
ATOM	1532	OD1	ASN	A	205	24.759	22.418	23.643	1.00	21.21	O
ATOM	1533	ND2	ASN	A	205	24.400	24.178	24.979	1.00	17.72	N
ATOM	1534	N	PHE	A	206	26.314	21.677	21.319	1.00	19.90	N
ATOM	1535	CA	PHE	A	206	25.339	21.230	20.354	1.00	19.77	C
ATOM	1536	C	PHE	A	206	24.085	20.869	21.150	1.00	19.25	C

ATOM	1537	O	PHE	A	206	24.094	19.939	21.959	1.00 19.15	O
ATOM	1538	CB	PHE	A	206	25.849	20.049	19.545	1.00 20.09	C
ATOM	1539	CG	PHE	A	206	26.786	20.442	18.454	1.00 19.77	C
ATOM	1540	CD1	PHE	A	206	26.371	21.294	17.453	1.00 22.21	C
ATOM	1541	CD2	PHE	A	206	28.079	19.973	18.435	1.00 20.21	C
ATOM	1542	CE1	PHE	A	206	27.213	21.643	16.434	1.00 22.06	C
ATOM	1543	CE2	PHE	A	206	28.941	20.336	17.418	1.00 20.66	C
ATOM	1544	CZ	PHE	A	206	28.504	21.190	16.427	1.00 22.18	C
ATOM	1545	N	PHE	A	207	23.009	21.596	20.869	1.00 18.42	N
ATOM	1546	CA	PHE	A	207	21.760	21.590	21.620	1.00 18.78	C
ATOM	1547	C	PHE	A	207	20.732	20.841	20.804	1.00 19.36	C
ATOM	1548	O	PHE	A	207	20.241	21.359	19.818	1.00 19.26	O
ATOM	1549	CB	PHE	A	207	21.366	23.063	21.836	1.00 18.70	C
ATOM	1550	CG	PHE	A	207	20.120	23.301	22.635	1.00 17.94	C
ATOM	1551	CD1	PHE	A	207	18.899	23.404	22.007	1.00 17.78	C
ATOM	1552	CD2	PHE	A	207	20.188	23.548	23.989	1.00 18.50	C
ATOM	1553	CE1	PHE	A	207	17.772	23.684	22.713	1.00 19.52	C
ATOM	1554	CE2	PHE	A	207	19.052	23.823	24.705	1.00 20.66	C
ATOM	1555	CZ	PHE	A	207	17.836	23.909	24.053	1.00 19.44	C
ATOM	1556	N	ALA	A	208	20.435	19.618	21.234	1.00 19.90	N
ATOM	1557	CA	ALA	A	208	19.628	18.670	20.469	1.00 20.17	C
ATOM	1558	C	ALA	A	208	18.210	18.541	20.991	1.00 20.52	C
ATOM	1559	O	ALA	A	208	17.971	17.946	22.047	1.00 20.61	O
ATOM	1560	CB	ALA	A	208	20.294	17.308	20.494	1.00 19.33	C
ATOM	1561	N	GLN	A	209	17.270	19.076	20.219	1.00 20.94	N
ATOM	1562	CA	GLN	A	209	15.880	19.062	20.627	1.00 20.82	C
ATOM	1563	C	GLN	A	209	15.227	17.712	20.323	1.00 20.75	C
ATOM	1564	O	GLN	A	209	15.401	17.129	19.224	1.00 19.59	O
ATOM	1565	CB	GLN	A	209	15.141	20.216	19.961	1.00 20.91	C
ATOM	1566	CG	GLN	A	209	13.735	20.431	20.463	1.00 20.52	C
ATOM	1567	CD	GLN	A	209	13.673	20.840	21.928	1.00 20.69	C
ATOM	1568	OE1	GLN	A	209	14.702	21.155	22.562	1.00 19.72	O
ATOM	1569	NE2	GLN	A	209	12.460	20.852	22.473	1.00 19.21	N
ATOM	1570	N	ILE	A	210	14.442	17.248	21.296	1.00 20.72	N
ATOM	1571	CA	ILE	A	210	13.853	15.922	21.252	1.00 21.43	C
ATOM	1572	C	ILE	A	210	12.334	15.911	21.292	1.00 21.72	C
ATOM	1573	O	ILE	A	210	11.728	15.195	20.534	1.00 22.12	O
ATOM	1574	CB	ILE	A	210	14.396	15.095	22.424	1.00 21.84	C
ATOM	1575	CG1	ILE	A	210	15.859	14.733	22.156	1.00 22.48	C
ATOM	1576	CG2	ILE	A	210	13.581	13.832	22.622	1.00 21.83	C
ATOM	1577	CD1	ILE	A	210	16.631	14.354	23.382	1.00 24.34	C
ATOM	1578	N	LYS	A	211	11.728	16.677	22.188	1.00 22.08	N
ATOM	1579	CA	LYS	A	211	10.279	16.715	22.319	1.00 21.72	C
ATOM	1580	C	LYS	A	211	9.858	18.130	22.564	1.00 21.67	C
ATOM	1581	O	LYS	A	211	10.468	18.841	23.372	1.00 20.87	O
ATOM	1582	CB	LYS	A	211	9.797	15.856	23.487	1.00 22.44	C
ATOM	1583	CG	LYS	A	211	8.267	15.562	23.479	1.00 23.29	C
ATOM	1584	CD	LYS	A	211	7.791	15.022	24.824	1.00 25.02	C
ATOM	1585	CE	LYS	A	211	6.494	14.215	24.757	1.00 26.00	C
ATOM	1586	NZ	LYS	A	211	5.561	14.522	23.634	1.00 26.43	N
ATOM	1587	N	GLY	A	212	8.798	18.541	21.875	1.00 21.35	N
ATOM	1588	CA	GLY	A	212	8.306	19.891	21.994	1.00 21.71	C
ATOM	1589	C	GLY	A	212	9.195	20.906	21.297	1.00 21.63	C
ATOM	1590	O	GLY	A	212	10.150	20.572	20.591	1.00 21.32	O
ATOM	1591	N	TYR	A	213	8.871	22.166	21.522	1.00 22.35	N
ATOM	1592	CA	TYR	A	213	9.533	23.279	20.862	1.00 22.42	C
ATOM	1593	C	TYR	A	213	10.028	24.293	21.868	1.00 22.33	C
ATOM	1594	O	TYR	A	213	9.340	24.589	22.853	1.00 21.55	O
ATOM	1595	CB	TYR	A	213	8.556	23.951	19.916	1.00 23.46	C
ATOM	1596	CG	TYR	A	213	8.114	23.034	18.815	1.00 24.81	C
ATOM	1597	CD1	TYR	A	213	7.100	22.112	19.020	1.00 28.16	C

ATOM	1598	CD2	TYR	A	213	8.751	23.051	17.589	1.00	26.74	C
ATOM	1599	CE1	TYR	A	213	6.716	21.237	18.011	1.00	28.91	C
ATOM	1600	CE2	TYR	A	213	8.378	22.193	16.585	1.00	28.63	C
ATOM	1601	CZ	TYR	A	213	7.366	21.295	16.795	1.00	29.44	C
ATOM	1602	OH	TYR	A	213	7.013	20.456	15.756	1.00	33.67	O
ATOM	1603	N	LYS	A	214	11.239	24.788	21.609	1.00	21.60	N
ATOM	1604	CA	LYS	A	214	11.875	25.793	22.414	1.00	21.89	C
ATOM	1605	C	LYS	A	214	12.312	26.947	21.528	1.00	21.62	C
ATOM	1606	O	LYS	A	214	12.878	26.747	20.442	1.00	22.07	O
ATOM	1607	CB	LYS	A	214	13.103	25.239	23.140	1.00	22.10	C
ATOM	1608	CG	LYS	A	214	12.796	24.385	24.338	1.00	22.63	C
ATOM	1609	CD	LYS	A	214	14.103	23.893	24.964	1.00	24.24	C
ATOM	1610	CE	LYS	A	214	13.923	23.478	26.402	1.00	23.54	C
ATOM	1611	NZ	LYS	A	214	15.169	22.872	26.951	1.00	22.10	N
ATOM	1612	N	ARG	A	215	12.007	28.156	21.974	1.00	20.97	N
ATOM	1613	CA	ARG	A	215	12.447	29.347	21.277	1.00	20.73	C
ATOM	1614	C	ARG	A	215	13.778	29.724	21.900	1.00	20.03	C
ATOM	1615	O	ARG	A	215	13.885	29.828	23.113	1.00	19.70	O
ATOM	1616	CB	ARG	A	215	11.461	30.470	21.493	1.00	21.30	C
ATOM	1617	CG	ARG	A	215	11.754	31.760	20.726	1.00	22.21	C
ATOM	1618	CD	ARG	A	215	11.177	32.925	21.473	1.00	24.71	C
ATOM	1619	NE	ARG	A	215	11.122	34.156	20.715	1.00	25.47	N
ATOM	1620	CZ	ARG	A	215	10.479	35.235	21.130	1.00	26.28	C
ATOM	1621	NH1	ARG	A	215	9.844	35.245	22.299	1.00	26.07	N
ATOM	1622	NH2	ARG	A	215	10.483	36.314	20.384	1.00	28.83	N
ATOM	1623	N	CYS	A	216	14.794	29.877	21.074	1.00	19.45	N
ATOM	1624	CA	CYS	A	216	16.116	30.219	21.554	1.00	19.58	C
ATOM	1625	C	CYS	A	216	16.503	31.587	20.993	1.00	19.92	C
ATOM	1626	O	CYS	A	216	16.503	31.774	19.789	1.00	20.16	O
ATOM	1627	CB	CYS	A	216	17.110	29.186	21.073	1.00	20.01	C
ATOM	1628	SG	CYS	A	216	16.693	27.450	21.462	1.00	21.39	S
ATOM	1629	N	ILE	A	217	16.812	32.530	21.878	1.00	19.28	N
ATOM	1630	CA	ILE	A	217	17.286	33.845	21.504	1.00	19.58	C
ATOM	1631	C	ILE	A	217	18.742	33.961	21.937	1.00	19.21	C
ATOM	1632	O	ILE	A	217	19.055	33.849	23.126	1.00	19.05	O
ATOM	1633	CB	ILE	A	217	16.424	34.943	22.168	1.00	19.88	C
ATOM	1634	CG1	ILE	A	217	14.926	34.687	21.878	1.00	20.56	C
ATOM	1635	CG2	ILE	A	217	16.803	36.312	21.627	1.00	20.25	C
ATOM	1636	CD1	ILE	A	217	13.984	35.692	22.488	1.00	20.99	C
ATOM	1637	N	LEU	A	218	19.620	34.176	20.965	1.00	19.01	N
ATOM	1638	CA	LEU	A	218	21.048	34.271	21.222	1.00	19.61	C
ATOM	1639	C	LEU	A	218	21.568	35.682	20.970	1.00	20.43	C
ATOM	1640	O	LEU	A	218	21.018	36.414	20.136	1.00	19.76	O
ATOM	1641	CB	LEU	A	218	21.816	33.329	20.308	1.00	19.66	C
ATOM	1642	CG	LEU	A	218	21.906	31.881	20.778	1.00	19.74	C
ATOM	1643	CD1	LEU	A	218	20.549	31.237	20.905	1.00	20.56	C
ATOM	1644	CD2	LEU	A	218	22.733	31.099	19.798	1.00	21.32	C
ATOM	1645	N	PHE	A	219	22.626	36.046	21.700	1.00	20.11	N
ATOM	1646	CA	PHE	A	219	23.282	37.324	21.524	1.00	20.96	C
ATOM	1647	C	PHE	A	219	24.805	37.078	21.453	1.00	21.19	C
ATOM	1648	O	PHE	A	219	25.351	36.313	22.257	1.00	21.20	O
ATOM	1649	CB	PHE	A	219	22.942	38.304	22.678	1.00	20.97	C
ATOM	1650	CG	PHE	A	219	21.463	38.456	22.954	1.00	20.44	C
ATOM	1651	CD1	PHE	A	219	20.821	37.637	23.846	1.00	21.46	C
ATOM	1652	CD2	PHE	A	219	20.724	39.447	22.334	1.00	22.49	C
ATOM	1653	CE1	PHE	A	219	19.472	37.790	24.108	1.00	22.33	C
ATOM	1654	CE2	PHE	A	219	19.387	39.605	22.605	1.00	21.32	C
ATOM	1655	CZ	PHE	A	219	18.760	38.773	23.480	1.00	21.50	C
ATOM	1656	N	PRO	A	220	25.485	37.705	20.498	1.00	21.20	N
ATOM	1657	CA	PRO	A	220	26.936	37.541	20.368	1.00	21.72	C
ATOM	1658	C	PRO	A	220	27.683	38.108	21.569	1.00	21.31	C

ATOM	1659	O	PRO A 220	27.165	38.972	22.280	1.00	20.90	O
ATOM	1660	CB	PRO A 220	27.302	38.341	19.120	1.00	21.41	C
ATOM	1661	CG	PRO A 220	26.020	38.781	18.510	1.00	23.12	C
ATOM	1662	CD	PRO A 220	24.938	38.637	19.508	1.00	22.22	C
ATOM	1663	N	PRO A 221	28.884	37.594	21.806	1.00	21.46	N
ATOM	1664	CA	PRO A 221	29.721	38.053	22.918	1.00	21.33	C
ATOM	1665	C	PRO A 221	29.961	39.556	22.940	1.00	21.04	C
ATOM	1666	O	PRO A 221	30.220	40.096	24.009	1.00	20.68	O
ATOM	1667	CB	PRO A 221	31.032	37.325	22.681	1.00	21.42	C
ATOM	1668	CG	PRO A 221	30.656	36.134	21.939	1.00	22.42	C
ATOM	1669	CD	PRO A 221	29.522	36.510	21.041	1.00	21.53	C
ATOM	1670	N	ASP A 222	29.877	40.225	21.792	1.00	21.47	N
ATOM	1671	CA	ASP A 222	30.128	41.669	21.749	1.00	21.80	C
ATOM	1672	C	ASP A 222	28.946	42.464	22.271	1.00	21.74	C
ATOM	1673	O	ASP A 222	28.970	43.685	22.261	1.00	22.16	O
ATOM	1674	CB	ASP A 222	30.568	42.148	20.355	1.00	21.85	C
ATOM	1675	CG	ASP A 222	29.433	42.151	19.325	1.00	24.83	C
ATOM	1676	OD1	ASP A 222	28.311	41.668	19.585	1.00	25.32	O
ATOM	1677	OD2	ASP A 222	29.595	42.607	18.186	1.00	29.30	O
ATOM	1678	N	GLN A 223	27.916	41.775	22.748	1.00	21.94	N
ATOM	1679	CA	GLN A 223	26.794	42.453	23.388	1.00	22.17	C
ATOM	1680	C	GLN A 223	26.897	42.388	24.928	1.00	21.93	C
ATOM	1681	O	GLN A 223	25.926	42.681	25.660	1.00	21.70	O
ATOM	1682	CB	GLN A 223	25.456	41.911	22.832	1.00	22.84	C
ATOM	1683	CG	GLN A 223	25.149	42.508	21.412	1.00	25.34	C
ATOM	1684	CD	GLN A 223	23.728	42.283	20.965	1.00	27.81	C
ATOM	1685	OE1	GLN A 223	22.801	42.473	21.750	1.00	30.00	O
ATOM	1686	NE2	GLN A 223	23.543	41.850	19.709	1.00	29.69	N
ATOM	1687	N	PHE A 224	28.079	42.027	25.417	1.00	21.04	N
ATOM	1688	CA	PHE A 224	28.363	42.035	26.860	1.00	21.41	C
ATOM	1689	C	PHE A 224	27.886	43.350	27.527	1.00	21.57	C
ATOM	1690	O	PHE A 224	27.240	43.315	28.561	1.00	21.34	O
ATOM	1691	CB	PHE A 224	29.883	41.874	27.076	1.00	20.95	C
ATOM	1692	CG	PHE A 224	30.304	41.773	28.529	1.00	21.82	C
ATOM	1693	CD1	PHE A 224	30.452	42.912	29.319	1.00	19.33	C
ATOM	1694	CD2	PHE A 224	30.595	40.552	29.089	1.00	20.01	C
ATOM	1695	CE1	PHE A 224	30.870	42.807	30.630	1.00	20.89	C
ATOM	1696	CE2	PHE A 224	31.025	40.449	30.397	1.00	20.59	C
ATOM	1697	CZ	PHE A 224	31.151	41.579	31.171	1.00	20.99	C
ATOM	1698	N	GLU A 225	28.195	44.495	26.916	1.00	22.10	N
ATOM	1699	CA	GLU A 225	27.823	45.800	27.466	1.00	23.01	C
ATOM	1700	C	GLU A 225	26.337	46.042	27.574	1.00	22.26	C
ATOM	1701	O	GLU A 225	25.928	46.946	28.311	1.00	21.91	O
ATOM	1702	CB	GLU A 225	28.401	46.935	26.624	1.00	24.27	C
ATOM	1703	CG	GLU A 225	29.886	47.133	26.857	1.00	29.26	C
ATOM	1704	CD	GLU A 225	30.312	48.579	27.062	1.00	35.91	C
ATOM	1705	OE1	GLU A 225	29.745	49.317	27.942	1.00	39.92	O
ATOM	1706	OE2	GLU A 225	31.281	48.958	26.368	1.00	40.78	O
ATOM	1707	N	CYS A 226	25.539	45.258	26.836	1.00	21.15	N
ATOM	1708	CA	CYS A 226	24.081	45.396	26.851	1.00	21.01	C
ATOM	1709	C	CYS A 226	23.359	44.417	27.768	1.00	20.67	C
ATOM	1710	O	CYS A 226	22.159	44.601	28.043	1.00	18.85	O
ATOM	1711	CB	CYS A 226	23.520	45.190	25.447	1.00	20.88	C
ATOM	1712	SG	CYS A 226	24.194	46.296	24.190	1.00	22.39	S
ATOM	1713	N	LEU A 227	24.085	43.399	28.256	1.00	20.56	N
ATOM	1714	CA	LEU A 227	23.461	42.304	28.985	1.00	20.48	C
ATOM	1715	C	LEU A 227	23.795	42.185	30.466	1.00	20.42	C
ATOM	1716	O	LEU A 227	23.180	41.398	31.187	1.00	20.78	O
ATOM	1717	CB	LEU A 227	23.737	41.003	28.232	1.00	21.20	C
ATOM	1718	CG	LEU A 227	22.865	40.993	26.963	1.00	22.96	C
ATOM	1719	CD1	LEU A 227	23.373	40.023	25.929	1.00	24.99	C

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ATOM   1720  CD2 LEU A 227      21.420  40.655  27.323  1.00 24.79           C
ATOM   1721  N   TYR A 228      24.793  42.939  30.901  1.00 20.08           N
ATOM   1722  CA  TYR A 228      25.060  43.127  32.303  1.00 19.66           C
ATOM   1723  C   TYR A 228      25.061  41.858  33.165  1.00 19.95           C
ATOM   1724  O   TYR A 228      24.229  41.697  34.058  1.00 19.69           O
ATOM   1725  CB  TYR A 228      24.050  44.137  32.857  1.00 19.77           C
ATOM   1726  CG  TYR A 228      24.028  45.481  32.119  1.00 19.37           C
ATOM   1727  CD1 TYR A 228      24.836  46.513  32.515  1.00 18.65           C
ATOM   1728  CD2 TYR A 228      23.180  45.697  31.036  1.00 19.82           C
ATOM   1729  CE1 TYR A 228      24.819  47.759  31.862  1.00 20.56           C
ATOM   1730  CE2 TYR A 228      23.143  46.920  30.380  1.00 20.78           C
ATOM   1731  CZ  TYR A 228      23.962  47.956  30.801  1.00 20.88           C
ATOM   1732  OH  TYR A 228      23.944  49.174  30.152  1.00 19.73           O
ATOM   1733  N   PRO A 229      26.028  40.981  32.941  1.00 19.99           N
ATOM   1734  CA  PRO A 229      26.140  39.781  33.768  1.00 20.44           C
ATOM   1735  C   PRO A 229      26.481  40.141  35.196  1.00 19.99           C
ATOM   1736  O   PRO A 229      27.130  41.166  35.451  1.00 20.03           O
ATOM   1737  CB  PRO A 229      27.334  39.043  33.157  1.00 20.11           C
ATOM   1738  CG  PRO A 229      28.125  40.130  32.541  1.00 21.04           C
ATOM   1739  CD  PRO A 229      27.099  41.050  31.935  1.00 19.79           C
ATOM   1740  N   TYR A 230      26.044  39.294  36.115  1.00 19.50           N
ATOM   1741  CA  TYR A 230      26.348  39.458  37.511  1.00 19.17           C
ATOM   1742  C   TYR A 230      27.860  39.464  37.704  1.00 19.14           C
ATOM   1743  O   TYR A 230      28.598  39.060  36.832  1.00 18.83           O
ATOM   1744  CB  TYR A 230      25.746  38.313  38.320  1.00 18.51           C
ATOM   1745  CG  TYR A 230      24.253  38.411  38.531  1.00 18.95           C
ATOM   1746  CD1 TYR A 230      23.368  37.949  37.560  1.00 18.39           C
ATOM   1747  CD2 TYR A 230      23.719  38.969  39.707  1.00 18.65           C
ATOM   1748  CE1 TYR A 230      22.001  38.006  37.751  1.00 17.34           C
ATOM   1749  CE2 TYR A 230      22.337  39.043  39.903  1.00 17.05           C
ATOM   1750  CZ  TYR A 230      21.492  38.550  38.909  1.00 17.79           C
ATOM   1751  OH  TYR A 230      20.127  38.601  39.051  1.00 19.77           O
ATOM   1752  N   PRO A 231      28.316  39.963  38.843  1.00 19.95           N
ATOM   1753  CA  PRO A 231      29.722  39.829  39.213  1.00 20.42           C
ATOM   1754  C   PRO A 231      30.157  38.339  39.187  1.00 20.93           C
ATOM   1755  O   PRO A 231      29.345  37.463  39.506  1.00 20.71           O
ATOM   1756  CB  PRO A 231      29.755  40.369  40.642  1.00 20.70           C
ATOM   1757  CG  PRO A 231      28.588  41.341  40.716  1.00 20.76           C
ATOM   1758  CD  PRO A 231      27.528  40.701  39.845  1.00 19.53           C
ATOM   1759  N   VAL A 232      31.413  38.067  38.831  1.00 20.93           N
ATOM   1760  CA  VAL A 232      31.906  36.685  38.742  1.00 21.31           C
ATOM   1761  C   VAL A 232      31.722  35.843  40.014  1.00 20.95           C
ATOM   1762  O   VAL A 232      31.431  34.650  39.934  1.00 20.50           O
ATOM   1763  CB  VAL A 232      33.398  36.655  38.304  1.00 21.35           C
ATOM   1764  CG1 VAL A 232      34.029  35.280  38.552  1.00 22.23           C
ATOM   1765  CG2 VAL A 232      33.533  37.031  36.850  1.00 21.71           C
ATOM   1766  N   HIS A 233      31.872  36.455  41.181  1.00 21.10           N
ATOM   1767  CA  HIS A 233      31.742  35.721  42.438  1.00 21.01           C
ATOM   1768  C   HIS A 233      30.302  35.571  42.944  1.00 20.95           C
ATOM   1769  O   HIS A 233      30.045  34.864  43.914  1.00 19.92           O
ATOM   1770  CB  HIS A 233      32.606  36.363  43.501  1.00 21.12           C
ATOM   1771  CG  HIS A 233      34.063  36.342  43.174  1.00 21.52           C
ATOM   1772  ND1 HIS A 233      34.720  37.424  42.625  1.00 22.78           N
ATOM   1773  CD2 HIS A 233      34.993  35.368  43.318  1.00 22.27           C
ATOM   1774  CE1 HIS A 233      35.994  37.114  42.446  1.00 24.00           C
ATOM   1775  NE2 HIS A 233      36.186  35.870  42.857  1.00 23.34           N
ATOM   1776  N   HIS A 234      29.364  36.236  42.288  1.00 20.94           N
ATOM   1777  CA  HIS A 234      27.959  36.081  42.630  1.00 21.27           C
ATOM   1778  C   HIS A 234      27.493  34.722  42.103  1.00 21.28           C
ATOM   1779  O   HIS A 234      28.022  34.233  41.107  1.00 21.02           O
ATOM   1780  CB  HIS A 234      27.169  37.203  41.989  1.00 21.52           C
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ATOM   1781  CG  HIS A 234      25.730  37.253  42.374  1.00 21.54           C
ATOM   1782  ND1 HIS A 234      24.769  36.498  41.740  1.00 21.95           N
ATOM   1783  CD2 HIS A 234      25.073  38.028  43.269  1.00 22.67           C
ATOM   1784  CE1 HIS A 234      23.585  36.779  42.254  1.00 22.38           C
ATOM   1785  NE2 HIS A 234      23.743  37.700  43.187  1.00 21.91           N
ATOM   1786  N   PRO A 235      26.551  34.087  42.792  1.00 21.11           N
ATOM   1787  CA  PRO A 235      25.999  32.809  42.338  1.00 21.46           C
ATOM   1788  C   PRO A 235      25.461  32.835  40.916  1.00 21.10           C
ATOM   1789  O   PRO A 235      25.517  31.802  40.244  1.00 20.37           O
ATOM   1790  CB  PRO A 235      24.860  32.551  43.325  1.00 21.90           C
ATOM   1791  CG  PRO A 235      25.316  33.240  44.574  1.00 22.00           C
ATOM   1792  CD  PRO A 235      26.007  34.485  44.100  1.00 21.41           C
ATOM   1793  N   CYS A 236      24.997  33.989  40.452  1.00 20.41           N
ATOM   1794  CA  CYS A 236      24.456  34.077  39.110  1.00 20.17           C
ATOM   1795  C   CYS A 236      25.503  34.554  38.107  1.00 20.00           C
ATOM   1796  O   CYS A 236      25.180  35.111  37.061  1.00 20.30           O
ATOM   1797  CB  CYS A 236      23.195  34.924  39.090  1.00 19.66           C
ATOM   1798  SG  CYS A 236      21.914  34.209  40.133  1.00 20.71           S
ATOM   1799  N   ASP A 237      26.768  34.311  38.433  1.00 19.87           N
ATOM   1800  CA  ASP A 237      27.857  34.498  37.485  1.00 19.60           C
ATOM   1801  C   ASP A 237      27.459  33.915  36.105  1.00 19.48           C
ATOM   1802  O   ASP A 237      26.883  32.834  36.020  1.00 18.94           O
ATOM   1803  CB  ASP A 237      29.075  33.789  38.031  1.00 19.20           C
ATOM   1804  CG  ASP A 237      30.268  33.842  37.107  1.00 20.58           C
ATOM   1805  OD1 ASP A 237      30.477  34.871  36.373  1.00 18.56           O
ATOM   1806  OD2 ASP A 237      31.070  32.868  37.077  1.00 19.51           O
ATOM   1807  N   ARG A 238      27.749  34.675  35.056  1.00 19.85           N
ATOM   1808  CA  ARG A 238      27.459  34.332  33.664  1.00 20.90           C
ATOM   1809  C   ARG A 238      26.002  34.572  33.247  1.00 20.67           C
ATOM   1810  O   ARG A 238      25.709  34.491  32.059  1.00 21.20           O
ATOM   1811  CB  ARG A 238      27.854  32.876  33.319  1.00 21.44           C
ATOM   1812  CG  ARG A 238      29.330  32.585  33.482  1.00 21.04           C
ATOM   1813  CD  ARG A 238      29.710  31.150  33.145  1.00 22.38           C
ATOM   1814  NE  ARG A 238      29.080  30.243  34.085  1.00 23.86           N
ATOM   1815  CZ  ARG A 238      27.937  29.584  33.874  1.00 25.81           C
ATOM   1816  NH1 ARG A 238      27.262  29.686  32.712  1.00 24.18           N
ATOM   1817  NH2 ARG A 238      27.471  28.810  34.849  1.00 27.18           N
ATOM   1818  N   GLN A 239      25.105  34.845  34.190  1.00 19.94           N
ATOM   1819  CA  GLN A 239      23.722  35.141  33.833  1.00 20.58           C
ATOM   1820  C   GLN A 239      23.535  36.661  33.740  1.00 20.50           C
ATOM   1821  O   GLN A 239      24.219  37.402  34.446  1.00 20.63           O
ATOM   1822  CB  GLN A 239      22.735  34.591  34.863  1.00 20.32           C
ATOM   1823  CG  GLN A 239      23.159  33.314  35.594  1.00 20.84           C
ATOM   1824  CD  GLN A 239      23.367  32.137  34.673  1.00 21.23           C
ATOM   1825  OE1 GLN A 239      22.434  31.675  34.014  1.00 21.22           O
ATOM   1826  NE2 GLN A 239      24.591  31.655  34.616  1.00 20.93           N
ATOM   1827  N   SER A 240      22.600  37.112  32.900  1.00 20.07           N
ATOM   1828  CA  SER A 240      22.282  38.533  32.768  1.00 20.18           C
ATOM   1829  C   SER A 240      21.498  39.027  33.969  1.00 20.71           C
ATOM   1830  O   SER A 240      20.619  38.316  34.467  1.00 20.85           O
ATOM   1831  CB  SER A 240      21.405  38.776  31.539  1.00 20.29           C
ATOM   1832  OG  SER A 240      21.007  40.137  31.454  1.00 21.43           O
ATOM   1833  N   GLN A 241      21.793  40.246  34.426  1.00 20.46           N
ATOM   1834  CA  GLN A 241      21.013  40.839  35.496  1.00 20.42           C
ATOM   1835  C   GLN A 241      19.711  41.433  34.965  1.00 20.26           C
ATOM   1836  O   GLN A 241      18.839  41.767  35.726  1.00 19.62           O
ATOM   1837  CB  GLN A 241      21.770  41.949  36.201  1.00 20.32           C
ATOM   1838  CG  GLN A 241      23.019  41.544  36.912  1.00 20.58           C
ATOM   1839  CD  GLN A 241      23.771  42.767  37.423  1.00 21.94           C
ATOM   1840  OE1 GLN A 241      23.524  43.210  38.514  1.00 23.52           O
ATOM   1841  NE2 GLN A 241      24.670  43.304  36.624  1.00 20.84           N
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ATOM	1842	N	VAL	A	242	19.557	41.563	33.659	1.00 20.57	N
ATOM	1843	CA	VAL	A	242	18.361	42.229	33.182	1.00 20.73	C
ATOM	1844	C	VAL	A	242	17.173	41.309	33.246	1.00 20.69	C
ATOM	1845	O	VAL	A	242	17.244	40.190	32.757	1.00 21.13	O
ATOM	1846	CB	VAL	A	242	18.498	42.667	31.712	1.00 21.03	C
ATOM	1847	CG1	VAL	A	242	17.204	43.377	31.250	1.00 20.85	C
ATOM	1848	CG2	VAL	A	242	19.723	43.527	31.498	1.00 20.71	C
ATOM	1849	N	ASP	A	243	16.071	41.786	33.813	1.00 20.62	N
ATOM	1850	CA	ASP	A	243	14.807	41.042	33.788	1.00 20.64	C
ATOM	1851	C	ASP	A	243	14.148	41.348	32.448	1.00 20.94	C
ATOM	1852	O	ASP	A	243	13.591	42.438	32.230	1.00 19.75	O
ATOM	1853	CB	ASP	A	243	13.916	41.471	34.963	1.00 20.88	C
ATOM	1854	CG	ASP	A	243	12.526	40.894	34.898	1.00 21.39	C
ATOM	1855	OD1	ASP	A	243	12.209	40.153	33.941	1.00 23.25	O
ATOM	1856	OD2	ASP	A	243	11.672	41.130	35.784	1.00 23.49	O
ATOM	1857	N	PHE	A	244	14.238	40.385	31.541	1.00 21.19	N
ATOM	1858	CA	PHE	A	244	13.717	40.549	30.197	1.00 21.56	C
ATOM	1859	C	PHE	A	244	12.225	40.916	30.204	1.00 22.49	C
ATOM	1860	O	PHE	A	244	11.734	41.521	29.260	1.00 21.85	O
ATOM	1861	CB	PHE	A	244	13.940	39.275	29.378	1.00 21.85	C
ATOM	1862	CG	PHE	A	244	15.316	39.152	28.743	1.00 20.87	C
ATOM	1863	CD1	PHE	A	244	16.457	39.540	29.399	1.00 20.74	C
ATOM	1864	CD2	PHE	A	244	15.446	38.617	27.483	1.00 21.00	C
ATOM	1865	CE1	PHE	A	244	17.691	39.407	28.810	1.00 19.77	C
ATOM	1866	CE2	PHE	A	244	16.687	38.470	26.890	1.00 20.94	C
ATOM	1867	CZ	PHE	A	244	17.805	38.881	27.551	1.00 20.34	C
ATOM	1868	N	ASP	A	245	11.500	40.554	31.259	1.00 23.56	N
ATOM	1869	CA	ASP	A	245	10.072	40.831	31.311	1.00 24.26	C
ATOM	1870	C	ASP	A	245	9.794	42.256	31.814	1.00 24.66	C
ATOM	1871	O	ASP	A	245	8.711	42.762	31.607	1.00 24.21	O
ATOM	1872	CB	ASP	A	245	9.353	39.841	32.222	1.00 24.74	C
ATOM	1873	CG	ASP	A	245	9.408	38.427	31.721	1.00 26.56	C
ATOM	1874	OD1	ASP	A	245	9.368	38.210	30.493	1.00 28.81	O
ATOM	1875	OD2	ASP	A	245	9.489	37.455	32.498	1.00 28.39	O
ATOM	1876	N	ASN	A	246	10.758	42.876	32.492	1.00 24.80	N
ATOM	1877	CA	ASN	A	246	10.605	44.244	32.989	1.00 25.56	C
ATOM	1878	C	ASN	A	246	11.960	44.902	33.106	1.00 25.31	C
ATOM	1879	O	ASN	A	246	12.500	45.064	34.205	1.00 25.43	O
ATOM	1880	CB	ASN	A	246	9.912	44.285	34.345	1.00 26.09	C
ATOM	1881	CG	ASN	A	246	9.555	45.716	34.765	1.00 29.59	C
ATOM	1882	OD1	ASN	A	246	9.366	46.598	33.912	1.00 32.67	O
ATOM	1883	ND2	ASN	A	246	9.468	45.954	36.075	1.00 33.42	N
ATOM	1884	N	PRO	A	247	12.525	45.257	31.961	1.00 25.08	N
ATOM	1885	CA	PRO	A	247	13.885	45.782	31.911	1.00 24.89	C
ATOM	1886	C	PRO	A	247	13.992	47.144	32.579	1.00 24.95	C
ATOM	1887	O	PRO	A	247	13.217	48.049	32.297	1.00 24.55	O
ATOM	1888	CB	PRO	A	247	14.182	45.899	30.413	1.00 25.05	C
ATOM	1889	CG	PRO	A	247	13.016	45.325	29.702	1.00 25.39	C
ATOM	1890	CD	PRO	A	247	11.890	45.184	30.640	1.00 25.02	C
ATOM	1891	N	ASP	A	248	14.976	47.267	33.460	1.00 24.53	N
ATOM	1892	CA	ASP	A	248	15.216	48.489	34.167	1.00 24.65	C
ATOM	1893	C	ASP	A	248	16.271	49.284	33.389	1.00 24.54	C
ATOM	1894	O	ASP	A	248	17.472	49.077	33.552	1.00 23.15	O
ATOM	1895	CB	ASP	A	248	15.706	48.144	35.564	1.00 24.64	C
ATOM	1896	CG	ASP	A	248	15.787	49.343	36.454	1.00 26.02	C
ATOM	1897	OD1	ASP	A	248	16.035	50.466	35.944	1.00 26.95	O
ATOM	1898	OD2	ASP	A	248	15.609	49.249	37.684	1.00 27.69	O
ATOM	1899	N	TYR	A	249	15.812	50.181	32.525	1.00 24.81	N
ATOM	1900	CA	TYR	A	249	16.720	50.936	31.673	1.00 25.45	C
ATOM	1901	C	TYR	A	249	17.573	51.954	32.426	1.00 25.90	C
ATOM	1902	O	TYR	A	249	18.585	52.421	31.897	1.00 25.80	O

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ATOM   1903  CB  TYR A 249      15.948  51.615  30.544  1.00 25.57           C
ATOM   1904  CG  TYR A 249      15.244  50.651  29.630  1.00 24.58           C
ATOM   1905  CD1 TYR A 249      15.930  49.624  29.003  1.00 25.44           C
ATOM   1906  CD2 TYR A 249      13.890  50.764  29.404  1.00 24.48           C
ATOM   1907  CE1 TYR A 249      15.276  48.731  28.173  1.00 25.01           C
ATOM   1908  CE2 TYR A 249      13.234  49.892  28.583  1.00 24.43           C
ATOM   1909  CZ  TYR A 249      13.927  48.883  27.969  1.00 24.47           C
ATOM   1910  OH  TYR A 249      13.252  48.043  27.142  1.00 25.97           O
ATOM   1911  N   GLU A 250      17.195  52.278  33.660  1.00 26.10           N
ATOM   1912  CA  GLU A 250      17.999  53.190  34.458  1.00 26.93           C
ATOM   1913  C   GLU A 250      19.259  52.492  34.929  1.00 25.85           C
ATOM   1914  O   GLU A 250      20.329  53.086  34.964  1.00 25.90           O
ATOM   1915  CB  GLU A 250      17.219  53.740  35.661  1.00 27.56           C
ATOM   1916  CG  GLU A 250      16.021  54.576  35.246  1.00 32.34           C
ATOM   1917  CD  GLU A 250      15.420  55.366  36.385  1.00 36.85           C
ATOM   1918  OE1 GLU A 250      15.945  55.309  37.516  1.00 42.35           O
ATOM   1919  OE2 GLU A 250      14.422  56.057  36.142  1.00 40.82           O
ATOM   1920  N   ARG A 251      19.136  51.233  35.315  1.00 24.58           N
ATOM   1921  CA  ARG A 251      20.297  50.502  35.756  1.00 23.76           C
ATOM   1922  C   ARG A 251      21.030  49.909  34.568  1.00 22.91           C
ATOM   1923  O   ARG A 251      22.242  49.773  34.602  1.00 22.42           O
ATOM   1924  CB  ARG A 251      19.896  49.374  36.696  1.00 24.55           C
ATOM   1925  CG  ARG A 251      19.421  49.802  38.077  1.00 25.88           C
ATOM   1926  CD  ARG A 251      18.894  48.629  38.921  1.00 29.50           C
ATOM   1927  NE  ARG A 251      19.993  47.764  39.349  1.00 31.63           N
ATOM   1928  CZ  ARG A 251      19.894  46.467  39.623  1.00 33.13           C
ATOM   1929  NH1 ARG A 251      18.736  45.826  39.521  1.00 33.12           N
ATOM   1930  NH2 ARG A 251      20.978  45.805  39.998  1.00 33.93           N
ATOM   1931  N   PHE A 252      20.300  49.560  33.515  1.00 21.47           N
ATOM   1932  CA  PHE A 252      20.898  48.863  32.379  1.00 21.32           C
ATOM   1933  C   PHE A 252      20.576  49.552  31.056  1.00 20.68           C
ATOM   1934  O   PHE A 252      19.934  48.984  30.187  1.00 20.79           O
ATOM   1935  CB  PHE A 252      20.355  47.434  32.344  1.00 21.09           C
ATOM   1936  CG  PHE A 252      20.373  46.738  33.690  1.00 20.96           C
ATOM   1937  CD1 PHE A 252      21.555  46.560  34.376  1.00 19.28           C
ATOM   1938  CD2 PHE A 252      19.207  46.238  34.247  1.00 21.43           C
ATOM   1939  CE1 PHE A 252      21.571  45.891  35.609  1.00 20.54           C
ATOM   1940  CE2 PHE A 252      19.217  45.588  35.488  1.00 22.13           C
ATOM   1941  CZ  PHE A 252      20.403  45.414  36.156  1.00 20.96           C
ATOM   1942  N   PRO A 253      21.057  50.767  30.884  1.00 20.56           N
ATOM   1943  CA  PRO A 253      20.658  51.566  29.714  1.00 20.38           C
ATOM   1944  C   PRO A 253      20.984  50.916  28.361  1.00 20.20           C
ATOM   1945  O   PRO A 253      20.191  51.053  27.428  1.00 19.48           O
ATOM   1946  CB  PRO A 253      21.383  52.903  29.928  1.00 19.77           C
ATOM   1947  CG  PRO A 253      22.562  52.555  30.895  1.00 20.60           C
ATOM   1948  CD  PRO A 253      21.986  51.484  31.782  1.00 20.69           C
ATOM   1949  N   ASN A 254      22.091  50.187  28.240  1.00 20.32           N
ATOM   1950  CA  ASN A 254      22.409  49.613  26.938  1.00 20.12           C
ATOM   1951  C   ASN A 254      21.572  48.393  26.554  1.00 19.96           C
ATOM   1952  O   ASN A 254      21.675  47.892  25.441  1.00 19.16           O
ATOM   1953  CB  ASN A 254      23.893  49.336  26.784  1.00 20.06           C
ATOM   1954  CG  ASN A 254      24.706  50.601  26.697  1.00 21.51           C
ATOM   1955  OD1 ASN A 254      25.502  50.896  27.598  1.00 23.96           O
ATOM   1956  ND2 ASN A 254      24.514  51.373  25.614  1.00 20.38           N
ATOM   1957  N   PHE A 255      20.724  47.922  27.455  1.00 19.81           N
ATOM   1958  CA  PHE A 255      19.807  46.858  27.063  1.00 19.54           C
ATOM   1959  C   PHE A 255      18.855  47.384  25.977  1.00 19.69           C
ATOM   1960  O   PHE A 255      18.194  46.606  25.274  1.00 19.77           O
ATOM   1961  CB  PHE A 255      19.023  46.330  28.252  1.00 19.22           C
ATOM   1962  CG  PHE A 255      18.269  45.105  27.940  1.00 20.47           C
ATOM   1963  CD1 PHE A 255      18.928  43.922  27.736  1.00 20.23           C
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ATOM   1964  CD2 PHE A 255      16.909  45.148  27.758  1.00 20.13           C
ATOM   1965  CE1 PHE A 255      18.243  42.786  27.416  1.00 21.65           C
ATOM   1966  CE2 PHE A 255      16.227  44.023  27.432  1.00 20.73           C
ATOM   1967  CZ  PHE A 255      16.886  42.842  27.257  1.00 22.63           C
ATOM   1968  N   GLN A 256      18.790  48.707  25.841  1.00 19.89           N
ATOM   1969  CA  GLN A 256      17.969  49.345  24.794  1.00 20.24           C
ATOM   1970  C   GLN A 256      18.595  49.160  23.403  1.00 19.74           C
ATOM   1971  O   GLN A 256      17.969  49.443  22.384  1.00 19.92           O
ATOM   1972  CB  GLN A 256      17.778  50.849  25.095  1.00 20.01           C
ATOM   1973  CG  GLN A 256      16.736  51.095  26.197  1.00 21.20           C
ATOM   1974  CD  GLN A 256      16.741  52.513  26.764  1.00 22.14           C
ATOM   1975  OE1 GLN A 256      15.711  53.195  26.741  1.00 23.01           O
ATOM   1976  NE2 GLN A 256      17.874  52.943  27.298  1.00 21.42           N
ATOM   1977  N   ASN A 257      19.845  48.716  23.385  1.00 19.66           N
ATOM   1978  CA  ASN A 257      20.580  48.485  22.155  1.00 20.07           C
ATOM   1979  C   ASN A 257      20.757  47.005  21.811  1.00 20.73           C
ATOM   1980  O   ASN A 257      21.416  46.694  20.823  1.00 20.96           O
ATOM   1981  CB  ASN A 257      21.969  49.100  22.232  1.00 19.17           C
ATOM   1982  CG  ASN A 257      21.941  50.550  22.635  1.00 20.82           C
ATOM   1983  OD1 ASN A 257      22.413  50.902  23.722  1.00 21.51           O
ATOM   1984  ND2 ASN A 257      21.396  51.407  21.763  1.00 16.92           N
ATOM   1985  N   VAL A 258      20.190  46.098  22.596  1.00 21.59           N
ATOM   1986  CA  VAL A 258      20.410  44.660  22.347  1.00 23.34           C
ATOM   1987  C   VAL A 258      19.671  44.172  21.112  1.00 23.85           C
ATOM   1988  O   VAL A 258      18.549  44.611  20.818  1.00 24.10           O
ATOM   1989  CB  VAL A 258      20.015  43.806  23.573  1.00 23.68           C
ATOM   1990  CG1 VAL A 258      18.507  43.720  23.685  1.00 24.12           C
ATOM   1991  CG2 VAL A 258      20.570  42.436  23.445  1.00 28.30           C
ATOM   1992  N   VAL A 259      20.314  43.286  20.360  1.00 24.47           N
ATOM   1993  CA  VAL A 259      19.705  42.721  19.154  1.00 24.91           C
ATOM   1994  C   VAL A 259      20.004  41.215  19.140  1.00 24.93           C
ATOM   1995  O   VAL A 259      21.152  40.829  19.119  1.00 25.32           O
ATOM   1996  CB  VAL A 259      20.281  43.362  17.895  1.00 24.88           C
ATOM   1997  CG1 VAL A 259      19.667  42.738  16.670  1.00 26.38           C
ATOM   1998  CG2 VAL A 259      20.051  44.869  17.909  1.00 24.83           C
ATOM   1999  N   GLY A 260      18.974  40.381  19.186  1.00 25.06           N
ATOM   2000  CA  GLY A 260      19.166  38.944  19.232  1.00 25.64           C
ATOM   2001  C   GLY A 260      19.076  38.221  17.887  1.00 25.42           C
ATOM   2002  O   GLY A 260      18.679  38.796  16.869  1.00 25.77           O
ATOM   2003  N   TYR A 261      19.497  36.965  17.907  1.00 25.04           N
ATOM   2004  CA  TYR A 261      19.380  36.049  16.792  1.00 25.30           C
ATOM   2005  C   TYR A 261      18.428  34.973  17.328  1.00 24.63           C
ATOM   2006  O   TYR A 261      18.676  34.417  18.392  1.00 24.77           O
ATOM   2007  CB  TYR A 261      20.729  35.414  16.482  1.00 25.84           C
ATOM   2008  CG  TYR A 261      21.750  36.315  15.825  1.00 28.57           C
ATOM   2009  CD1 TYR A 261      21.821  36.423  14.447  1.00 34.41           C
ATOM   2010  CD2 TYR A 261      22.631  37.049  16.574  1.00 29.87           C
ATOM   2011  CE1 TYR A 261      22.752  37.255  13.838  1.00 35.64           C
ATOM   2012  CE2 TYR A 261      23.576  37.852  15.986  1.00 32.26           C
ATOM   2013  CZ  TYR A 261      23.644  37.949  14.623  1.00 34.92           C
ATOM   2014  OH  TYR A 261      24.582  38.772  14.047  1.00 38.39           O
ATOM   2015  N   GLU A 262      17.325  34.698  16.658  1.00 23.64           N
ATOM   2016  CA  GLU A 262      16.376  33.758  17.244  1.00 24.03           C
ATOM   2017  C   GLU A 262      15.933  32.660  16.306  1.00 23.15           C
ATOM   2018  O   GLU A 262      16.063  32.766  15.078  1.00 22.51           O
ATOM   2019  CB  GLU A 262      15.172  34.482  17.861  1.00 24.11           C
ATOM   2020  CG  GLU A 262      13.899  34.502  17.057  1.00 26.35           C
ATOM   2021  CD  GLU A 262      12.744  35.177  17.785  1.00 27.98           C
ATOM   2022  OE1 GLU A 262      12.743  36.415  17.872  1.00 27.19           O
ATOM   2023  OE2 GLU A 262      11.818  34.476  18.254  1.00 29.21           O
ATOM   2024  N   THR A 263      15.455  31.587  16.917  1.00 22.58           N
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ATOM   2025  CA  THR A 263      14.939  30.458  16.170  1.00 22.52           C
ATOM   2026  C   THR A 263      14.047  29.617  17.076  1.00 22.48           C
ATOM   2027  O   THR A 263      14.107  29.712  18.313  1.00 22.14           O
ATOM   2028  CB  THR A 263      16.117  29.607  15.659  1.00 22.55           C
ATOM   2029  OG1 THR A 263      15.665  28.666  14.675  1.00 22.25           O
ATOM   2030  CG2 THR A 263      16.693  28.743  16.770  1.00 22.79           C
ATOM   2031  N   VAL A 264      13.208  28.797  16.472  1.00 21.62           N
ATOM   2032  CA  VAL A 264      12.453  27.860  17.263  1.00 22.45           C
ATOM   2033  C   VAL A 264      12.871  26.474  16.837  1.00 22.76           C
ATOM   2034  O   VAL A 264      12.779  26.134  15.673  1.00 22.77           O
ATOM   2035  CB  VAL A 264      10.964  28.027  17.087  1.00 23.08           C
ATOM   2036  CG1 VAL A 264      10.234  26.805  17.643  1.00 23.67           C
ATOM   2037  CG2 VAL A 264      10.499  29.344  17.767  1.00 22.75           C
ATOM   2038  N   VAL A 265      13.389  25.695  17.777  1.00 22.93           N
ATOM   2039  CA  VAL A 265      13.779  24.329  17.458  1.00 23.08           C
ATOM   2040  C   VAL A 265      12.738  23.317  17.886  1.00 22.86           C
ATOM   2041  O   VAL A 265      12.105  23.473  18.932  1.00 23.06           O
ATOM   2042  CB  VAL A 265      15.143  23.937  18.075  1.00 22.94           C
ATOM   2043  CG1 VAL A 265      16.243  24.745  17.404  1.00 23.66           C
ATOM   2044  CG2 VAL A 265      15.169  24.122  19.592  1.00 22.99           C
ATOM   2045  N   GLY A 266      12.574  22.290  17.056  1.00 21.77           N
ATOM   2046  CA  GLY A 266      11.683  21.178  17.355  1.00 21.98           C
ATOM   2047  C   GLY A 266      12.376  19.826  17.263  1.00 20.97           C
ATOM   2048  O   GLY A 266      13.562  19.757  16.999  1.00 20.63           O
ATOM   2049  N   PRO A 267      11.643  18.737  17.461  1.00 21.23           N
ATOM   2050  CA  PRO A 267      12.253  17.403  17.427  1.00 20.68           C
ATOM   2051  C   PRO A 267      13.126  17.183  16.203  1.00 20.04           C
ATOM   2052  O   PRO A 267      12.666  17.371  15.081  1.00 19.35           O
ATOM   2053  CB  PRO A 267      11.039  16.463  17.379  1.00 21.29           C
ATOM   2054  CG  PRO A 267       9.970  17.202  18.037  1.00 22.85           C
ATOM   2055  CD  PRO A 267      10.188  18.676  17.710  1.00 21.61           C
ATOM   2056  N   GLY A 268      14.376  16.787  16.411  1.00 20.31           N
ATOM   2057  CA  GLY A 268      15.278  16.518  15.305  1.00 19.95           C
ATOM   2058  C   GLY A 268      16.256  17.627  14.993  1.00 20.50           C
ATOM   2059  O   GLY A 268      17.277  17.400  14.311  1.00 21.62           O
ATOM   2060  N   ASP A 269      15.965  18.831  15.477  1.00 19.81           N
ATOM   2061  CA  ASP A 269      16.818  19.977  15.217  1.00 19.75           C
ATOM   2062  C   ASP A 269      17.970  20.003  16.215  1.00 19.67           C
ATOM   2063  O   ASP A 269      17.811  19.625  17.377  1.00 18.76           O
ATOM   2064  CB  ASP A 269      16.032  21.288  15.386  1.00 19.99           C
ATOM   2065  CG  ASP A 269      14.916  21.464  14.374  1.00 20.91           C
ATOM   2066  OD1 ASP A 269      14.935  20.842  13.287  1.00 22.13           O
ATOM   2067  OD2 ASP A 269      13.987  22.259  14.576  1.00 23.27           O
ATOM   2068  N   VAL A 270      19.116  20.481  15.746  1.00 19.56           N
ATOM   2069  CA  VAL A 270      20.276  20.700  16.595  1.00 19.57           C
ATOM   2070  C   VAL A 270      20.747  22.137  16.444  1.00 19.33           C
ATOM   2071  O   VAL A 270      21.033  22.594  15.352  1.00 19.78           O
ATOM   2072  CB  VAL A 270      21.404  19.776  16.215  1.00 19.55           C
ATOM   2073  CG1 VAL A 270      22.646  20.154  16.966  1.00 20.05           C
ATOM   2074  CG2 VAL A 270      21.001  18.342  16.535  1.00 19.44           C
ATOM   2075  N   LEU A 271      20.786  22.870  17.539  1.00 19.33           N
ATOM   2076  CA  LEU A 271      21.263  24.229  17.501  1.00 19.02           C
ATOM   2077  C   LEU A 271      22.677  24.272  18.036  1.00 19.15           C
ATOM   2078  O   LEU A 271      22.961  23.787  19.130  1.00 18.74           O
ATOM   2079  CB  LEU A 271      20.376  25.120  18.331  1.00 19.93           C
ATOM   2080  CG  LEU A 271      20.892  26.549  18.573  1.00 20.11           C
ATOM   2081  CD1 LEU A 271      21.011  27.358  17.296  1.00 19.41           C
ATOM   2082  CD2 LEU A 271      19.979  27.245  19.555  1.00 20.25           C
ATOM   2083  N   TYR A 272      23.582  24.818  17.244  1.00 19.15           N
ATOM   2084  CA  TYR A 272      24.924  25.051  17.718  1.00 19.70           C
ATOM   2085  C   TYR A 272      24.914  26.360  18.483  1.00 19.63           C
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ATOM   2086  O   TYR A 272      24.646  27.395  17.897  1.00 20.44           O
ATOM   2087  CB  TYR A 272      25.908  25.172  16.547  1.00 19.86           C
ATOM   2088  CG  TYR A 272      27.293  25.654  16.962  1.00 21.59           C
ATOM   2089  CD1 TYR A 272      27.952  25.093  18.048  1.00 22.02           C
ATOM   2090  CD2 TYR A 272      27.936  26.668  16.278  1.00 20.87           C
ATOM   2091  CE1 TYR A 272      29.214  25.522  18.421  1.00 19.87           C
ATOM   2092  CE2 TYR A 272      29.200  27.098  16.649  1.00 20.88           C
ATOM   2093  CZ  TYR A 272      29.834  26.517  17.721  1.00 21.07           C
ATOM   2094  OH  TYR A 272      31.091  26.937  18.104  1.00 18.93           O
ATOM   2095  N   ILE A 273      25.210  26.308  19.776  1.00 19.80           N
ATOM   2096  CA  ILE A 273      25.342  27.500  20.598  1.00 20.12           C
ATOM   2097  C   ILE A 273      26.837  27.683  20.883  1.00 20.39           C
ATOM   2098  O   ILE A 273      27.393  27.000  21.760  1.00 19.88           O
ATOM   2099  CB  ILE A 273      24.576  27.366  21.901  1.00 19.72           C
ATOM   2100  CG1 ILE A 273      23.111  27.045  21.624  1.00 20.57           C
ATOM   2101  CG2 ILE A 273      24.661  28.695  22.696  1.00 20.99           C
ATOM   2102  CD1 ILE A 273      22.296  26.797  22.876  1.00 20.93           C
ATOM   2103  N   PRO A 274      27.487  28.611  20.182  1.00 20.23           N
ATOM   2104  CA  PRO A 274      28.938  28.743  20.326  1.00 21.16           C
ATOM   2105  C   PRO A 274      29.289  29.264  21.704  1.00 21.39           C
ATOM   2106  O   PRO A 274      28.520  30.027  22.317  1.00 20.89           O
ATOM   2107  CB  PRO A 274      29.353  29.757  19.230  1.00 21.62           C
ATOM   2108  CG  PRO A 274      28.089  30.056  18.410  1.00 21.22           C
ATOM   2109  CD  PRO A 274      26.919  29.621  19.282  1.00 20.51           C
ATOM   2110  N   MET A 275      30.450  28.831  22.180  1.00 21.53           N
ATOM   2111  CA  MET A 275      30.953  29.207  23.479  1.00 22.30           C
ATOM   2112  C   MET A 275      30.920  30.734  23.636  1.00 21.94           C
ATOM   2113  O   MET A 275      31.160  31.442  22.675  1.00 20.78           O
ATOM   2114  CB  MET A 275      32.367  28.695  23.589  1.00 23.06           C
ATOM   2115  CG  MET A 275      32.937  28.734  24.966  1.00 27.00           C
ATOM   2116  SD  MET A 275      34.545  27.926  24.991  1.00 33.74           S
ATOM   2117  CE  MET A 275      35.263  28.479  23.499  1.00 32.50           C
ATOM   2118  N   TYR A 276      30.583  31.211  24.832  1.00 21.96           N
ATOM   2119  CA  TYR A 276      30.485  32.656  25.138  1.00 23.15           C
ATOM   2120  C   TYR A 276      29.256  33.365  24.546  1.00 22.39           C
ATOM   2121  O   TYR A 276      28.989  34.496  24.899  1.00 22.58           O
ATOM   2122  CB  TYR A 276      31.776  33.409  24.760  1.00 23.80           C
ATOM   2123  CG  TYR A 276      32.904  33.136  25.729  1.00 28.82           C
ATOM   2124  CD1 TYR A 276      32.940  33.756  26.951  1.00 32.73           C
ATOM   2125  CD2 TYR A 276      33.935  32.246  25.415  1.00 35.83           C
ATOM   2126  CE1 TYR A 276      33.956  33.507  27.864  1.00 35.96           C
ATOM   2127  CE2 TYR A 276      34.975  31.992  26.336  1.00 38.59           C
ATOM   2128  CZ  TYR A 276      34.958  32.628  27.562  1.00 38.60           C
ATOM   2129  OH  TYR A 276      35.951  32.421  28.513  1.00 45.18           O
ATOM   2130  N   TRP A 277      28.488  32.709  23.684  1.00 21.71           N
ATOM   2131  CA  TRP A 277      27.281  33.350  23.149  1.00 21.24           C
ATOM   2132  C   TRP A 277      26.184  33.278  24.152  1.00 20.90           C
ATOM   2133  O   TRP A 277      25.914  32.217  24.708  1.00 21.96           O
ATOM   2134  CB  TRP A 277      26.790  32.711  21.856  1.00 21.01           C
ATOM   2135  CG  TRP A 277      27.547  33.166  20.670  1.00 19.98           C
ATOM   2136  CD1 TRP A 277      28.875  33.013  20.462  1.00 17.90           C
ATOM   2137  CD2 TRP A 277      27.030  33.832  19.519  1.00 19.76           C
ATOM   2138  NE1 TRP A 277      29.218  33.533  19.247  1.00 18.64           N
ATOM   2139  CE2 TRP A 277      28.106  34.071  18.662  1.00 18.29           C
ATOM   2140  CE3 TRP A 277      25.764  34.305  19.151  1.00 20.56           C
ATOM   2141  CZ2 TRP A 277      27.963  34.716  17.442  1.00 19.63           C
ATOM   2142  CZ3 TRP A 277      25.624  34.950  17.943  1.00 21.16           C
ATOM   2143  CH2 TRP A 277      26.720  35.137  17.095  1.00 19.92           C
ATOM   2144  N   TRP A 278      25.574  34.426  24.405  1.00 20.32           N
ATOM   2145  CA  TRP A 278      24.452  34.533  25.316  1.00 20.13           C
ATOM   2146  C   TRP A 278      23.268  33.787  24.741  1.00 19.99           C
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ATOM   2147  O   TRP A 278      23.083  33.758  23.538  1.00 20.42           O
ATOM   2148  CB  TRP A 278      24.025  35.999  25.441  1.00 20.65           C
ATOM   2149  CG  TRP A 278      25.031  36.864  26.107  1.00 20.56           C
ATOM   2150  CD1 TRP A 278      26.078  37.526  25.519  1.00 19.63           C
ATOM   2151  CD2 TRP A 278      25.096  37.160  27.501  1.00 19.59           C
ATOM   2152  NE1 TRP A 278      26.772  38.233  26.469  1.00 20.70           N
ATOM   2153  CE2 TRP A 278      26.191  38.012  27.699  1.00 20.10           C
ATOM   2154  CE3 TRP A 278      24.318  36.811  28.601  1.00 20.98           C
ATOM   2155  CZ2 TRP A 278      26.527  38.516  28.951  1.00 20.24           C
ATOM   2156  CZ3 TRP A 278      24.668  37.299  29.849  1.00 23.26           C
ATOM   2157  CH2 TRP A 278      25.759  38.146  30.011  1.00 20.41           C
ATOM   2158  N   HIS A 279      22.463  33.194  25.591  1.00 19.84           N
ATOM   2159  CA  HIS A 279      21.269  32.530  25.122  1.00 20.78           C
ATOM   2160  C   HIS A 279      20.202  32.495  26.192  1.00 20.37           C
ATOM   2161  O   HIS A 279      20.479  32.275  27.370  1.00 20.66           O
ATOM   2162  CB  HIS A 279      21.540  31.098  24.604  1.00 20.86           C
ATOM   2163  CG  HIS A 279      22.349  30.238  25.528  1.00 21.83           C
ATOM   2164  ND1 HIS A 279      23.720  30.324  25.608  1.00 23.19           N
ATOM   2165  CD2 HIS A 279      21.988  29.240  26.371  1.00 23.96           C
ATOM   2166  CE1 HIS A 279      24.175  29.411  26.449  1.00 22.20           C
ATOM   2167  NE2 HIS A 279      23.144  28.747  26.940  1.00 23.84           N
ATOM   2168  N   HIS A 280      18.994  32.718  25.711  1.00 20.90           N
ATOM   2169  CA  HIS A 280      17.742  32.758  26.441  1.00 21.22           C
ATOM   2170  C   HIS A 280      16.910  31.676  25.793  1.00 21.42           C
ATOM   2171  O   HIS A 280      16.749  31.685  24.580  1.00 21.70           O
ATOM   2172  CB  HIS A 280      17.099  34.124  26.224  1.00 21.04           C
ATOM   2173  CG  HIS A 280      15.632  34.168  26.489  1.00 21.54           C
ATOM   2174  ND1 HIS A 280      15.096  34.836  27.571  1.00 22.76           N
ATOM   2175  CD2 HIS A 280      14.581  33.660  25.802  1.00 22.74           C
ATOM   2176  CE1 HIS A 280      13.779  34.721  27.546  1.00 23.23           C
ATOM   2177  NE2 HIS A 280      13.441  34.014  26.482  1.00 23.05           N
ATOM   2178  N   ILE A 281      16.367  30.755  26.584  1.00 22.31           N
ATOM   2179  CA  ILE A 281      15.649  29.599  26.040  1.00 22.39           C
ATOM   2180  C   ILE A 281      14.304  29.443  26.722  1.00 22.72           C
ATOM   2181  O   ILE A 281      14.216  29.419  27.945  1.00 22.70           O
ATOM   2182  CB  ILE A 281      16.527  28.336  26.189  1.00 22.98           C
ATOM   2183  CG1 ILE A 281      17.771  28.504  25.305  1.00 24.90           C
ATOM   2184  CG2 ILE A 281      15.770  27.059  25.771  1.00 21.60           C
ATOM   2185  CD1 ILE A 281      18.795  27.556  25.554  1.00 27.31           C
ATOM   2186  N   GLU A 282      13.252  29.350  25.920  1.00 22.93           N
ATOM   2187  CA  GLU A 282      11.903  29.205  26.458  1.00 23.35           C
ATOM   2188  C   GLU A 282      11.101  28.105  25.769  1.00 22.59           C
ATOM   2189  O   GLU A 282      11.092  27.982  24.549  1.00 21.77           O
ATOM   2190  CB  GLU A 282      11.144  30.538  26.393  1.00 23.47           C
ATOM   2191  CG  GLU A 282      10.830  31.055  25.009  1.00 25.70           C
ATOM   2192  CD  GLU A 282      10.281  32.483  25.023  1.00 25.79           C
ATOM   2193  OE1 GLU A 282      10.898  33.356  25.665  1.00 27.49           O
ATOM   2194  OE2 GLU A 282       9.241  32.740  24.391  1.00 26.03           O
ATOM   2195  N   SER A 283      10.456  27.293  26.588  1.00 22.44           N
ATOM   2196  CA  SER A 283       9.570  26.246  26.103  1.00 23.00           C
ATOM   2197  C   SER A 283       8.256  26.916  25.753  1.00 23.56           C
ATOM   2198  O   SER A 283       7.685  27.615  26.584  1.00 24.14           O
ATOM   2199  CB  SER A 283       9.346  25.204  27.188  1.00 22.59           C
ATOM   2200  OG  SER A 283      10.496  24.400  27.345  1.00 22.67           O
ATOM   2201  N   LEU A 284       7.763  26.694  24.541  1.00 24.07           N
ATOM   2202  CA  LEU A 284       6.581  27.412  24.070  1.00 24.80           C
ATOM   2203  C   LEU A 284       5.386  27.324  25.004  1.00 24.51           C
ATOM   2204  O   LEU A 284       5.098  26.271  25.602  1.00 23.93           O
ATOM   2205  CB  LEU A 284       6.161  26.947  22.682  1.00 25.09           C
ATOM   2206  CG  LEU A 284       7.185  27.083  21.555  1.00 26.46           C
ATOM   2207  CD1 LEU A 284       6.475  27.236  20.215  1.00 28.29           C
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ATOM   2208  CD2 LEU A 284       8.123  28.188  21.775  1.00 26.10           C
ATOM   2209  N   LEU A 285       4.718  28.463  25.136  1.00 24.41           N
ATOM   2210  CA  LEU A 285       3.506  28.554  25.930  1.00 24.83           C
ATOM   2211  C   LEU A 285       2.526  27.583  25.323  1.00 24.68           C
ATOM   2212  O   LEU A 285       2.393  27.516  24.110  1.00 24.08           O
ATOM   2213  CB  LEU A 285       2.927  29.961  25.872  1.00 24.79           C
ATOM   2214  CG  LEU A 285       3.825  31.078  26.397  1.00 25.19           C
ATOM   2215  CD1 LEU A 285       3.298  32.434  25.954  1.00 26.02           C
ATOM   2216  CD2 LEU A 285       3.925  30.999  27.898  1.00 26.27           C
ATOM   2217  N   ASN A 286       1.867  26.815  26.173  1.00 25.20           N
ATOM   2218  CA  ASN A 286       0.867  25.848  25.730  1.00 25.85           C
ATOM   2219  C   ASN A 286       1.371  24.791  24.742  1.00 25.23           C
ATOM   2220  O   ASN A 286       0.594  24.267  23.965  1.00 24.38           O
ATOM   2221  CB  ASN A 286      -0.319  26.599  25.124  1.00 26.54           C
ATOM   2222  CG  ASN A 286      -0.957  27.546  26.109  1.00 29.40           C
ATOM   2223  OD1 ASN A 286      -1.478  27.118  27.140  1.00 33.49           O
ATOM   2224  ND2 ASN A 286      -0.893  28.843  25.821  1.00 33.58           N
ATOM   2225  N   GLY A 287       2.669  24.487  24.774  1.00 24.55           N
ATOM   2226  CA  GLY A 287       3.243  23.518  23.863  1.00 24.10           C
ATOM   2227  C   GLY A 287       3.524  22.167  24.487  1.00 23.80           C
ATOM   2228  O   GLY A 287       4.110  21.301  23.838  1.00 24.10           O
ATOM   2229  N   GLY A 288       3.100  21.971  25.734  1.00 23.32           N
ATOM   2230  CA  GLY A 288       3.360  20.730  26.439  1.00 23.24           C
ATOM   2231  C   GLY A 288       4.808  20.673  26.903  1.00 23.49           C
ATOM   2232  O   GLY A 288       5.548  21.646  26.741  1.00 22.86           O
ATOM   2233  N   ILE A 289       5.220  19.539  27.462  1.00 23.36           N
ATOM   2234  CA  ILE A 289       6.571  19.406  27.983  1.00 23.99           C
ATOM   2235  C   ILE A 289       7.601  19.374  26.874  1.00 23.28           C
ATOM   2236  O   ILE A 289       7.324  18.958  25.755  1.00 23.68           O
ATOM   2237  CB  ILE A 289       6.750  18.123  28.817  1.00 24.68           C
ATOM   2238  CG1 ILE A 289       6.819  16.912  27.901  1.00 26.90           C
ATOM   2239  CG2 ILE A 289       5.648  17.983  29.885  1.00 25.75           C
ATOM   2240  CD1 ILE A 289       7.294  15.640  28.613  1.00 29.37           C
ATOM   2241  N   THR A 290       8.811  19.790  27.210  1.00 22.42           N
ATOM   2242  CA  THR A 290       9.904  19.768  26.264  1.00 21.38           C
ATOM   2243  C   THR A 290      11.030  18.880  26.774  1.00 20.56           C
ATOM   2244  O   THR A 290      11.243  18.743  27.986  1.00 19.81           O
ATOM   2245  CB  THR A 290      10.461  21.175  26.053  1.00 21.70           C
ATOM   2246  OG1 THR A 290      10.823  21.761  27.308  1.00 20.15           O
ATOM   2247  CG2 THR A 290       9.405  22.108  25.460  1.00 21.76           C
ATOM   2248  N   ILE A 291      11.757  18.296  25.841  1.00 19.36           N
ATOM   2249  CA  ILE A 291      12.903  17.503  26.190  1.00 19.73           C
ATOM   2250  C   ILE A 291      14.044  17.865  25.286  1.00 19.29           C
ATOM   2251  O   ILE A 291      13.862  17.976  24.083  1.00 19.81           O
ATOM   2252  CB  ILE A 291      12.598  15.992  26.085  1.00 20.08           C
ATOM   2253  CG1 ILE A 291      11.467  15.609  27.044  1.00 20.06           C
ATOM   2254  CG2 ILE A 291      13.873  15.214  26.378  1.00 20.21           C
ATOM   2255  CD1 ILE A 291      11.028  14.131  26.931  1.00 21.77           C
ATOM   2256  N   THR A 292      15.215  18.070  25.882  1.00 18.95           N
ATOM   2257  CA  THR A 292      16.406  18.407  25.156  1.00 19.17           C
ATOM   2258  C   THR A 292      17.589  17.691  25.753  1.00 19.18           C
ATOM   2259  O   THR A 292      17.671  17.497  26.965  1.00 19.21           O
ATOM   2260  CB  THR A 292      16.703  19.937  25.259  1.00 19.83           C
ATOM   2261  OG1 THR A 292      15.559  20.724  24.879  1.00 20.23           O
ATOM   2262  CG2 THR A 292      17.787  20.350  24.270  1.00 20.15           C
ATOM   2263  N   VAL A 293      18.530  17.314  24.903  1.00 19.25           N
ATOM   2264  CA  VAL A 293      19.809  16.824  25.387  1.00 19.51           C
ATOM   2265  C   VAL A 293      20.912  17.667  24.749  1.00 19.58           C
ATOM   2266  O   VAL A 293      20.962  17.792  23.535  1.00 18.47           O
ATOM   2267  CB  VAL A 293      20.024  15.345  25.063  1.00 19.73           C
ATOM   2268  CG1 VAL A 293      21.490  14.951  25.250  1.00 20.24           C
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ATOM   2269  CG2 VAL A 293      19.146  14.478  25.968  1.00 20.65           C
ATOM   2270  N   ASN A 294      21.766  18.277  25.569  1.00 19.85           N
ATOM   2271  CA  ASN A 294      22.882  19.057  25.039  1.00 20.26           C
ATOM   2272  C   ASN A 294      24.179  18.232  25.052  1.00 20.35           C
ATOM   2273  O   ASN A 294      24.233  17.131  25.634  1.00 21.82           O
ATOM   2274  CB  ASN A 294      23.008  20.443  25.727  1.00 20.82           C
ATOM   2275  CG  ASN A 294      23.676  20.388  27.102  1.00 21.84           C
ATOM   2276  OD1 ASN A 294      24.209  19.354  27.495  1.00 21.66           O
ATOM   2277  ND2 ASN A 294      23.630  21.519  27.849  1.00 21.23           N
ATOM   2278  N   PHE A 295      25.186  18.729  24.346  1.00 20.69           N
ATOM   2279  CA  PHE A 295      26.490  18.095  24.233  1.00 20.46           C
ATOM   2280  C   PHE A 295      27.452  19.240  24.494  1.00 21.42           C
ATOM   2281  O   PHE A 295      27.573  20.167  23.653  1.00 20.85           O
ATOM   2282  CB  PHE A 295      26.728  17.569  22.814  1.00 20.62           C
ATOM   2283  CG  PHE A 295      25.898  16.366  22.440  1.00 21.15           C
ATOM   2284  CD1 PHE A 295      24.526  16.468  22.247  1.00 21.98           C
ATOM   2285  CD2 PHE A 295      26.498  15.130  22.256  1.00 19.31           C
ATOM   2286  CE1 PHE A 295      23.791  15.343  21.902  1.00 19.77           C
ATOM   2287  CE2 PHE A 295      25.762  14.037  21.885  1.00 17.96           C
ATOM   2288  CZ  PHE A 295      24.424  14.138  21.720  1.00 17.87           C
ATOM   2289  N   TRP A 296      28.123  19.196  25.645  1.00 21.19           N
ATOM   2290  CA  TRP A 296      29.023  20.275  26.050  1.00 21.46           C
ATOM   2291  C   TRP A 296      30.481  19.834  25.873  1.00 21.42           C
ATOM   2292  O   TRP A 296      30.898  18.795  26.387  1.00 21.96           O
ATOM   2293  CB  TRP A 296      28.760  20.669  27.498  1.00 21.13           C
ATOM   2294  CG  TRP A 296      27.853  21.859  27.710  1.00 21.95           C
ATOM   2295  CD1 TRP A 296      27.797  22.987  26.955  1.00 23.23           C
ATOM   2296  CD2 TRP A 296      26.935  22.067  28.797  1.00 22.27           C
ATOM   2297  NE1 TRP A 296      26.882  23.869  27.478  1.00 22.26           N
ATOM   2298  CE2 TRP A 296      26.336  23.329  28.607  1.00 22.53           C
ATOM   2299  CE3 TRP A 296      26.531  21.298  29.894  1.00 24.83           C
ATOM   2300  CZ2 TRP A 296      25.362  23.840  29.463  1.00 22.34           C
ATOM   2301  CZ3 TRP A 296      25.557  21.810  30.754  1.00 24.59           C
ATOM   2302  CH2 TRP A 296      24.993  23.075  30.531  1.00 23.75           C
ATOM   2303  N   TYR A 297      31.235  20.632  25.126  1.00 21.64           N
ATOM   2304  CA  TYR A 297      32.633  20.361  24.845  1.00 21.81           C
ATOM   2305  C   TYR A 297      33.482  21.523  25.320  1.00 22.41           C
ATOM   2306  O   TYR A 297      33.110  22.682  25.146  1.00 21.78           O
ATOM   2307  CB  TYR A 297      32.862  20.198  23.344  1.00 21.49           C
ATOM   2308  CG  TYR A 297      32.287  18.943  22.761  1.00 21.77           C
ATOM   2309  CD1 TYR A 297      30.934  18.870  22.415  1.00 21.68           C
ATOM   2310  CD2 TYR A 297      33.083  17.841  22.526  1.00 19.80           C
ATOM   2311  CE1 TYR A 297      30.405  17.734  21.890  1.00 22.16           C
ATOM   2312  CE2 TYR A 297      32.555  16.690  21.993  1.00 20.99           C
ATOM   2313  CZ  TYR A 297      31.215  16.637  21.686  1.00 21.46           C
ATOM   2314  OH  TYR A 297      30.673  15.494  21.159  1.00 22.11           O
ATOM   2315  N   LYS A 298      34.632  21.220  25.899  1.00 23.17           N
ATOM   2316  CA  LYS A 298      35.566  22.273  26.288  1.00 24.45           C
ATOM   2317  C   LYS A 298      36.074  22.912  25.021  1.00 24.21           C
ATOM   2318  O   LYS A 298      36.264  22.228  24.025  1.00 23.35           O
ATOM   2319  CB  LYS A 298      36.748  21.699  27.085  1.00 24.85           C
ATOM   2320  CG  LYS A 298      36.436  21.416  28.552  1.00 28.00           C
ATOM   2321  CD  LYS A 298      37.657  20.865  29.298  1.00 31.59           C
ATOM   2322  CE  LYS A 298      37.309  20.447  30.730  1.00 33.77           C
ATOM   2323  NZ  LYS A 298      38.406  19.627  31.367  1.00 36.02           N
ATOM   2324  N   GLY A 299      36.317  24.216  25.056  1.00 25.28           N
ATOM   2325  CA  GLY A 299      36.818  24.909  23.886  1.00 26.38           C
ATOM   2326  C   GLY A 299      38.254  24.542  23.547  1.00 27.78           C
ATOM   2327  O   GLY A 299      38.935  23.895  24.315  1.00 27.16           O
ATOM   2328  N   ALA A 300      38.690  24.949  22.366  1.00 30.42           N
ATOM   2329  CA  ALA A 300      40.062  24.762  21.918  1.00 32.93           C
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ATOM   2330  C   ALA A 300      41.021  25.544  22.819  1.00 35.12           C
ATOM   2331  O   ALA A 300      40.597  26.337  23.646  1.00 34.87           O
ATOM   2332  CB  ALA A 300      40.199  25.249  20.472  1.00 32.98           C
ATOM   2333  N   PRO A 301      42.318  25.355  22.615  1.00 38.54           N
ATOM   2334  CA  PRO A 301      43.347  26.012  23.440  1.00 40.37           C
ATOM   2335  C   PRO A 301      43.548  27.484  23.102  1.00 41.99           C
ATOM   2336  O   PRO A 301      43.379  27.853  21.950  1.00 42.88           O
ATOM   2337  CB  PRO A 301      44.615  25.246  23.061  1.00 40.42           C
ATOM   2338  CG  PRO A 301      44.397  24.879  21.638  1.00 39.87           C
ATOM   2339  CD  PRO A 301      42.919  24.544  21.535  1.00 38.98           C
ATOM   2340  N   THR A 302      43.915  28.293  24.090  1.00 44.60           N
ATOM   2341  CA  THR A 302      44.209  29.725  23.912  1.00 46.30           C
ATOM   2342  C   THR A 302      45.593  29.790  23.315  1.00 47.41           C
ATOM   2343  O   THR A 302      46.534  29.388  23.992  1.00 47.96           O
ATOM   2344  CB  THR A 302      44.242  30.391  25.294  1.00 46.57           C
ATOM   2345  OG1 THR A 302      42.941  30.320  25.895  1.00 48.00           O
ATOM   2346  CG2 THR A 302      44.526  31.869  25.199  1.00 47.24           C
ATOM   2347  N   PRO A 303      45.782  30.336  22.112  1.00 48.55           N
ATOM   2348  CA  PRO A 303      47.090  30.170  21.473  1.00 48.80           C
ATOM   2349  C   PRO A 303      48.210  30.717  22.341  1.00 48.76           C
ATOM   2350  O   PRO A 303      47.874  31.450  23.269  1.00 49.07           O
ATOM   2351  CB  PRO A 303      46.967  30.980  20.185  1.00 49.07           C
ATOM   2352  CG  PRO A 303      45.504  31.101  19.952  1.00 48.93           C
ATOM   2353  CD  PRO A 303      44.916  31.243  21.330  1.00 48.62           C
ATOM   2354  N   GLU A 307      46.795  36.776  18.436  1.00 52.62           N
ATOM   2355  CA  GLU A 307      46.885  37.814  17.415  1.00 52.76           C
ATOM   2356  C   GLU A 307      45.865  38.906  17.636  1.00 52.00           C
ATOM   2357  O   GLU A 307      44.757  38.658  18.096  1.00 52.48           O
ATOM   2358  CB  GLU A 307      46.686  37.246  15.996  1.00 53.32           C
ATOM   2359  CG  GLU A 307      46.893  38.307  14.908  1.00 54.63           C
ATOM   2360  CD  GLU A 307      46.862  37.764  13.487  1.00 56.43           C
ATOM   2361  OE1 GLU A 307      46.527  36.574  13.290  1.00 57.49           O
ATOM   2362  OE2 GLU A 307      47.173  38.543  12.558  1.00 57.89           O
ATOM   2363  N   TYR A 308      46.255  40.125  17.303  1.00 51.19           N
ATOM   2364  CA  TYR A 308      45.367  41.267  17.405  1.00 50.55           C
ATOM   2365  C   TYR A 308      44.747  41.494  16.039  1.00 49.51           C
ATOM   2366  O   TYR A 308      45.300  41.053  15.028  1.00 49.70           O
ATOM   2367  CB  TYR A 308      46.151  42.485  17.867  1.00 50.82           C
ATOM   2368  CG  TYR A 308      46.702  42.286  19.259  1.00 52.47           C
ATOM   2369  CD1 TYR A 308      45.949  42.632  20.373  1.00 53.15           C
ATOM   2370  CD2 TYR A 308      47.948  41.696  19.462  1.00 53.79           C
ATOM   2371  CE1 TYR A 308      46.426  42.426  21.643  1.00 54.22           C
ATOM   2372  CE2 TYR A 308      48.437  41.487  20.736  1.00 54.76           C
ATOM   2373  CZ  TYR A 308      47.670  41.857  21.824  1.00 55.10           C
ATOM   2374  OH  TYR A 308      48.146  41.659  23.101  1.00 56.68           O
ATOM   2375  N   PRO A 309      43.584  42.135  15.987  1.00 47.88           N
ATOM   2376  CA  PRO A 309      42.843  42.621  17.169  1.00 46.21           C
ATOM   2377  C   PRO A 309      42.139  41.503  17.952  1.00 43.75           C
ATOM   2378  O   PRO A 309      41.768  40.503  17.369  1.00 44.10           O
ATOM   2379  CB  PRO A 309      41.804  43.566  16.562  1.00 46.39           C
ATOM   2380  CG  PRO A 309      41.610  43.069  15.128  1.00 47.65           C
ATOM   2381  CD  PRO A 309      42.899  42.431  14.716  1.00 48.06           C
ATOM   2382  N   LEU A 310      41.973  41.672  19.256  1.00 40.94           N
ATOM   2383  CA  LEU A 310      41.349  40.650  20.093  1.00 38.75           C
ATOM   2384  C   LEU A 310      39.863  40.491  19.817  1.00 36.87           C
ATOM   2385  O   LEU A 310      39.148  41.474  19.610  1.00 37.02           O
ATOM   2386  CB  LEU A 310      41.499  41.017  21.566  1.00 38.63           C
ATOM   2387  CG  LEU A 310      42.571  40.351  22.435  1.00 37.97           C
ATOM   2388  CD1 LEU A 310      43.840  40.049  21.711  1.00 37.27           C
ATOM   2389  CD2 LEU A 310      42.836  41.234  23.637  1.00 37.27           C
ATOM   2390  N   LYS A 311      39.392  39.254  19.847  1.00 34.04           N
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ATOM   2391  CA  LYS A 311      37.972  38.998  19.702  1.00 32.20           C
ATOM   2392  C   LYS A 311      37.208  39.376  20.968  1.00 30.33           C
ATOM   2393  O   LYS A 311      37.760  39.421  22.072  1.00 29.17           O
ATOM   2394  CB  LYS A 311      37.733  37.564  19.371  1.00 32.59           C
ATOM   2395  N   ALA A 312      35.924  39.641  20.788  1.00 28.23           N
ATOM   2396  CA  ALA A 312      35.074  40.011  21.895  1.00 27.38           C
ATOM   2397  C   ALA A 312      35.148  38.973  23.005  1.00 26.28           C
ATOM   2398  O   ALA A 312      35.271  39.334  24.172  1.00 24.54           O
ATOM   2399  CB  ALA A 312      33.641  40.205  21.421  1.00 27.09           C
ATOM   2400  N   HIS A 313      35.101  37.689  22.649  1.00 25.72           N
ATOM   2401  CA  HIS A 313      35.086  36.669  23.674  1.00 25.82           C
ATOM   2402  C   HIS A 313      36.399  36.609  24.428  1.00 24.79           C
ATOM   2403  O   HIS A 313      36.428  36.183  25.557  1.00 24.19           O
ATOM   2404  CB  HIS A 313      34.688  35.293  23.129  1.00 26.92           C
ATOM   2405  CG  HIS A 313      35.741  34.641  22.303  1.00 29.84           C
ATOM   2406  ND1 HIS A 313      35.896  34.903  20.954  1.00 35.52           N
ATOM   2407  CD2 HIS A 313      36.702  33.746  22.627  1.00 33.54           C
ATOM   2408  CE1 HIS A 313      36.921  34.208  20.489  1.00 35.03           C
ATOM   2409  NE2 HIS A 313      37.424  33.491  21.481  1.00 35.78           N
ATOM   2410  N   GLN A 314      37.479  37.042  23.803  1.00 24.43           N
ATOM   2411  CA  GLN A 314      38.762  37.092  24.465  1.00 24.34           C
ATOM   2412  C   GLN A 314      38.762  38.226  25.510  1.00 24.39           C
ATOM   2413  O   GLN A 314      39.327  38.081  26.590  1.00 24.82           O
ATOM   2414  CB  GLN A 314      39.882  37.290  23.439  1.00 24.47           C
ATOM   2415  CG  GLN A 314      40.032  36.106  22.472  1.00 25.49           C
ATOM   2416  CD  GLN A 314      41.036  36.362  21.366  1.00 25.52           C
ATOM   2417  OE1 GLN A 314      40.878  37.287  20.563  1.00 27.59           O
ATOM   2418  NE2 GLN A 314      42.078  35.553  21.330  1.00 28.22           N
ATOM   2419  N   LYS A 315      38.113  39.337  25.196  1.00 23.51           N
ATOM   2420  CA  LYS A 315      38.000  40.423  26.154  1.00 23.79           C
ATOM   2421  C   LYS A 315      37.125  39.979  27.325  1.00 23.05           C
ATOM   2422  O   LYS A 315      37.373  40.347  28.465  1.00 21.38           O
ATOM   2423  CB  LYS A 315      37.421  41.667  25.504  1.00 24.09           C
ATOM   2424  CG  LYS A 315      38.382  42.286  24.533  1.00 26.96           C
ATOM   2425  CD  LYS A 315      37.849  43.552  23.947  1.00 31.28           C
ATOM   2426  CE  LYS A 315      38.856  44.156  22.977  1.00 34.34           C
ATOM   2427  NZ  LYS A 315      38.207  45.098  22.005  1.00 36.25           N
ATOM   2428  N   VAL A 316      36.109  39.177  27.041  1.00 22.30           N
ATOM   2429  CA  VAL A 316      35.276  38.673  28.113  1.00 22.39           C
ATOM   2430  C   VAL A 316      36.124  37.800  29.063  1.00 22.29           C
ATOM   2431  O   VAL A 316      36.040  37.932  30.274  1.00 21.27           O
ATOM   2432  CB  VAL A 316      34.065  37.887  27.595  1.00 22.03           C
ATOM   2433  CG1 VAL A 316      33.309  37.282  28.750  1.00 21.64           C
ATOM   2434  CG2 VAL A 316      33.123  38.796  26.802  1.00 22.46           C
ATOM   2435  N   ALA A 317      36.964  36.941  28.499  1.00 22.09           N
ATOM   2436  CA  ALA A 317      37.848  36.086  29.295  1.00 21.98           C
ATOM   2437  C   ALA A 317      38.783  36.916  30.164  1.00 21.61           C
ATOM   2438  O   ALA A 317      39.042  36.573  31.300  1.00 21.05           O
ATOM   2439  CB  ALA A 317      38.668  35.147  28.380  1.00 22.01           C
ATOM   2440  N   ILE A 318      39.273  38.016  29.606  1.00 21.45           N
ATOM   2441  CA  ILE A 318      40.162  38.917  30.318  1.00 21.24           C
ATOM   2442  C   ILE A 318      39.431  39.511  31.524  1.00 21.38           C
ATOM   2443  O   ILE A 318      39.937  39.462  32.646  1.00 20.76           O
ATOM   2444  CB  ILE A 318      40.709  40.023  29.377  1.00 20.58           C
ATOM   2445  CG1 ILE A 318      41.715  39.434  28.400  1.00 21.19           C
ATOM   2446  CG2 ILE A 318      41.354  41.167  30.185  1.00 20.20           C
ATOM   2447  CD1 ILE A 318      42.223  40.419  27.353  1.00 21.35           C
ATOM   2448  N   MET A 319      38.234  40.030  31.287  1.00 20.83           N
ATOM   2449  CA  MET A 319      37.446  40.622  32.355  1.00 21.31           C
ATOM   2450  C   MET A 319      37.154  39.617  33.454  1.00 21.52           C
ATOM   2451  O   MET A 319      37.326  39.911  34.651  1.00 21.13           O
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ATOM   2452  CB  MET A 319      36.177  41.260  31.818  1.00 21.01           C
ATOM   2453  CG  MET A 319      36.423  42.519  30.971  1.00 21.17           C
ATOM   2454  SD  MET A 319      34.860  43.346  30.459  1.00 22.71           S
ATOM   2455  CE  MET A 319      34.204  42.152  29.206  1.00 22.13           C
ATOM   2456  N   ARG A 320      36.767  38.408  33.068  1.00 21.34           N
ATOM   2457  CA  ARG A 320      36.532  37.399  34.075  1.00 21.12           C
ATOM   2458  C   ARG A 320      37.801  37.186  34.898  1.00 21.25           C
ATOM   2459  O   ARG A 320      37.747  37.064  36.122  1.00 21.48           O
ATOM   2460  CB  ARG A 320      36.102  36.095  33.427  1.00 21.01           C
ATOM   2461  CG  ARG A 320      34.723  36.145  32.741  1.00 20.63           C
ATOM   2462  CD  ARG A 320      34.324  34.795  32.142  1.00 18.73           C
ATOM   2463  NE  ARG A 320      34.225  33.824  33.225  1.00 19.25           N
ATOM   2464  CZ  ARG A 320      33.247  33.809  34.115  1.00 19.86           C
ATOM   2465  NH1 ARG A 320      32.259  34.689  34.062  1.00 21.08           N
ATOM   2466  NH2 ARG A 320      33.263  32.923  35.081  1.00 23.29           N
ATOM   2467  N   ASN A 321      38.947  37.123  34.231  1.00 20.94           N
ATOM   2468  CA  ASN A 321      40.184  36.855  34.939  1.00 20.88           C
ATOM   2469  C   ASN A 321      40.535  37.981  35.916  1.00 20.93           C
ATOM   2470  O   ASN A 321      40.962  37.716  37.047  1.00 21.77           O
ATOM   2471  CB  ASN A 321      41.324  36.552  33.958  1.00 21.04           C
ATOM   2472  CG  ASN A 321      41.288  35.099  33.447  1.00 22.80           C
ATOM   2473  OD1 ASN A 321      40.924  34.193  34.185  1.00 23.97           O
ATOM   2474  ND2 ASN A 321      41.666  34.887  32.193  1.00 21.35           N
ATOM   2475  N   ILE A 322      40.355  39.233  35.505  1.00 20.14           N
ATOM   2476  CA  ILE A 322      40.633  40.336  36.408  1.00 20.06           C
ATOM   2477  C   ILE A 322      39.742  40.196  37.650  1.00 19.42           C
ATOM   2478  O   ILE A 322      40.207  40.345  38.767  1.00 18.73           O
ATOM   2479  CB  ILE A 322      40.372  41.690  35.715  1.00 20.21           C
ATOM   2480  CG1 ILE A 322      41.320  41.894  34.535  1.00 21.54           C
ATOM   2481  CG2 ILE A 322      40.504  42.823  36.699  1.00 20.53           C
ATOM   2482  CD1 ILE A 322      42.806  41.798  34.868  1.00 24.56           C
ATOM   2483  N   GLU A 323      38.458  39.904  37.454  1.00 18.94           N
ATOM   2484  CA  GLU A 323      37.553  39.757  38.576  1.00 18.98           C
ATOM   2485  C   GLU A 323      38.027  38.651  39.492  1.00 19.33           C
ATOM   2486  O   GLU A 323      38.084  38.832  40.707  1.00 19.05           O
ATOM   2487  CB  GLU A 323      36.113  39.538  38.106  1.00 19.25           C
ATOM   2488  CG  GLU A 323      35.518  40.803  37.484  1.00 19.34           C
ATOM   2489  CD  GLU A 323      34.143  40.616  36.855  1.00 18.71           C
ATOM   2490  OE1 GLU A 323      33.183  40.332  37.573  1.00 19.19           O
ATOM   2491  OE2 GLU A 323      34.024  40.805  35.636  1.00 19.56           O
ATOM   2492  N   LYS A 324      38.425  37.528  38.908  1.00 19.55           N
ATOM   2493  CA  LYS A 324      38.874  36.379  39.693  1.00 20.24           C
ATOM   2494  C   LYS A 324      40.115  36.707  40.513  1.00 20.68           C
ATOM   2495  O   LYS A 324      40.157  36.405  41.699  1.00 20.83           O
ATOM   2496  CB  LYS A 324      39.175  35.175  38.789  1.00 20.07           C
ATOM   2497  CG  LYS A 324      37.924  34.507  38.212  1.00 20.57           C
ATOM   2498  CD  LYS A 324      38.331  33.318  37.350  1.00 20.28           C
ATOM   2499  CE  LYS A 324      37.137  32.689  36.621  1.00 19.29           C
ATOM   2500  NZ  LYS A 324      37.596  31.460  35.876  1.00 17.17           N
ATOM   2501  N   MET A 325      41.112  37.320  39.885  1.00 21.21           N
ATOM   2502  CA  MET A 325      42.366  37.657  40.568  1.00 22.87           C
ATOM   2503  C   MET A 325      42.162  38.665  41.699  1.00 22.44           C
ATOM   2504  O   MET A 325      42.763  38.560  42.771  1.00 22.08           O
ATOM   2505  CB  MET A 325      43.380  38.232  39.572  1.00 23.32           C
ATOM   2506  CG  MET A 325      43.993  37.195  38.671  1.00 27.47           C
ATOM   2507  SD  MET A 325      44.795  37.924  37.197  1.00 35.56           S
ATOM   2508  CE  MET A 325      45.664  39.189  38.009  1.00 34.71           C
ATOM   2509  N   LEU A 326      41.309  39.641  41.452  1.00 22.71           N
ATOM   2510  CA  LEU A 326      41.043  40.670  42.449  1.00 23.24           C
ATOM   2511  C   LEU A 326      40.385  40.073  43.679  1.00 23.15           C
ATOM   2512  O   LEU A 326      40.735  40.417  44.795  1.00 22.40           O
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ATOM   2513  CB  LEU A 326      40.151  41.735  41.865  1.00 23.01           C
ATOM   2514  CG  LEU A 326      40.677  43.139  41.625  1.00 25.86           C
ATOM   2515  CD1 LEU A 326      42.187  43.277  41.529  1.00 26.53           C
ATOM   2516  CD2 LEU A 326      39.986  43.672  40.377  1.00 25.54           C
ATOM   2517  N   GLY A 327      39.441  39.164  43.460  1.00 23.29           N
ATOM   2518  CA  GLY A 327      38.760  38.489  44.547  1.00 23.97           C
ATOM   2519  C   GLY A 327      39.728  37.723  45.418  1.00 24.63           C
ATOM   2520  O   GLY A 327      39.659  37.783  46.649  1.00 24.75           O
ATOM   2521  N   GLU A 328      40.644  37.002  44.778  1.00 25.03           N
ATOM   2522  CA  GLU A 328      41.671  36.265  45.506  1.00 26.08           C
ATOM   2523  C   GLU A 328      42.661  37.180  46.223  1.00 25.43           C
ATOM   2524  O   GLU A 328      43.029  36.926  47.367  1.00 25.16           O
ATOM   2525  CB  GLU A 328      42.442  35.368  44.546  1.00 26.76           C
ATOM   2526  CG  GLU A 328      41.576  34.278  43.947  1.00 30.36           C
ATOM   2527  CD  GLU A 328      41.719  32.957  44.676  1.00 35.76           C
ATOM   2528  OE1 GLU A 328      42.091  32.986  45.878  1.00 38.79           O
ATOM   2529  OE2 GLU A 328      41.483  31.896  44.034  1.00 38.82           O
ATOM   2530  N   ALA A 329      43.094  38.240  45.552  1.00 24.91           N
ATOM   2531  CA  ALA A 329      44.102  39.119  46.134  1.00 24.95           C
ATOM   2532  C   ALA A 329      43.535  39.929  47.285  1.00 24.94           C
ATOM   2533  O   ALA A 329      44.197  40.147  48.276  1.00 24.57           O
ATOM   2534  CB  ALA A 329      44.682  40.022  45.088  1.00 24.88           C
ATOM   2535  N   LEU A 330      42.290  40.354  47.161  1.00 25.47           N
ATOM   2536  CA  LEU A 330      41.672  41.133  48.219  1.00 26.16           C
ATOM   2537  C   LEU A 330      41.212  40.265  49.379  1.00 26.80           C
ATOM   2538  O   LEU A 330      40.994  40.761  50.471  1.00 27.00           O
ATOM   2539  CB  LEU A 330      40.504  41.930  47.669  1.00 26.08           C
ATOM   2540  CG  LEU A 330      40.954  42.981  46.653  1.00 26.04           C
ATOM   2541  CD1 LEU A 330      39.760  43.489  45.888  1.00 26.16           C
ATOM   2542  CD2 LEU A 330      41.688  44.134  47.353  1.00 26.65           C
ATOM   2543  N   GLY A 331      41.037  38.977  49.126  1.00 27.87           N
ATOM   2544  CA  GLY A 331      40.645  38.039  50.158  1.00 28.89           C
ATOM   2545  C   GLY A 331      39.176  38.086  50.526  1.00 29.43           C
ATOM   2546  O   GLY A 331      38.763  37.435  51.478  1.00 30.62           O
ATOM   2547  N   ASN A 332      38.400  38.887  49.808  1.00 29.59           N
ATOM   2548  CA  ASN A 332      36.963  38.995  50.023  1.00 29.64           C
ATOM   2549  C   ASN A 332      36.367  39.500  48.718  1.00 29.00           C
ATOM   2550  O   ASN A 332      36.649  40.605  48.303  1.00 28.70           O
ATOM   2551  CB  ASN A 332      36.656  39.973  51.156  1.00 30.15           C
ATOM   2552  CG  ASN A 332      35.162  40.094  51.441  1.00 31.82           C
ATOM   2553  OD1 ASN A 332      34.335  39.531  50.734  1.00 34.71           O
ATOM   2554  ND2 ASN A 332      34.818  40.818  52.504  1.00 35.11           N
ATOM   2555  N   PRO A 333      35.528  38.706  48.081  1.00 28.53           N
ATOM   2556  CA  PRO A 333      35.001  39.075  46.771  1.00 28.25           C
ATOM   2557  C   PRO A 333      34.176  40.343  46.807  1.00 27.91           C
ATOM   2558  O   PRO A 333      34.033  40.984  45.776  1.00 26.99           O
ATOM   2559  CB  PRO A 333      34.120  37.893  46.368  1.00 28.16           C
ATOM   2560  CG  PRO A 333      34.137  36.938  47.468  1.00 28.91           C
ATOM   2561  CD  PRO A 333      35.022  37.415  48.561  1.00 28.96           C
ATOM   2562  N   GLN A 334      33.638  40.701  47.965  1.00 27.80           N
ATOM   2563  CA  GLN A 334      32.814  41.896  48.039  1.00 27.97           C
ATOM   2564  C   GLN A 334      33.665  43.155  47.975  1.00 26.77           C
ATOM   2565  O   GLN A 334      33.144  44.245  47.764  1.00 26.51           O
ATOM   2566  CB  GLN A 334      31.906  41.867  49.278  1.00 28.98           C
ATOM   2567  CG  GLN A 334      30.675  40.969  49.038  1.00 32.17           C
ATOM   2568  CD  GLN A 334      29.661  40.962  50.175  1.00 35.54           C
ATOM   2569  OE1 GLN A 334      29.682  41.840  51.048  1.00 37.92           O
ATOM   2570  NE2 GLN A 334      28.760  39.961  50.163  1.00 36.72           N
ATOM   2571  N   GLU A 335      34.974  43.007  48.132  1.00 25.19           N
ATOM   2572  CA  GLU A 335      35.860  44.151  48.018  1.00 24.41           C
ATOM   2573  C   GLU A 335      36.170  44.466  46.537  1.00 22.68           C
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ATOM   2574  O   GLU A 335      36.700  45.521  46.228  1.00 21.42           O
ATOM   2575  CB  GLU A 335      37.150  43.928  48.835  1.00 24.98           C
ATOM   2576  CG  GLU A 335      36.974  44.148  50.343  1.00 27.94           C
ATOM   2577  CD  GLU A 335      38.264  44.055  51.139  1.00 31.85           C
ATOM   2578  OE1 GLU A 335      39.248  44.736  50.777  1.00 34.79           O
ATOM   2579  OE2 GLU A 335      38.298  43.312  52.158  1.00 36.87           O
ATOM   2580  N   VAL A 336      35.809  43.566  45.625  1.00 21.32           N
ATOM   2581  CA  VAL A 336      36.113  43.751  44.201  1.00 20.37           C
ATOM   2582  C   VAL A 336      35.541  45.034  43.603  1.00 20.01           C
ATOM   2583  O   VAL A 336      36.247  45.798  42.954  1.00 19.07           O
ATOM   2584  CB  VAL A 336      35.647  42.554  43.371  1.00 20.60           C
ATOM   2585  CG1 VAL A 336      35.785  42.841  41.883  1.00 21.06           C
ATOM   2586  CG2 VAL A 336      36.463  41.316  43.743  1.00 20.68           C
ATOM   2587  N   GLY A 337      34.260  45.275  43.842  1.00 19.61           N
ATOM   2588  CA  GLY A 337      33.593  46.437  43.317  1.00 19.45           C
ATOM   2589  C   GLY A 337      34.205  47.760  43.731  1.00 19.51           C
ATOM   2590  O   GLY A 337      34.522  48.576  42.871  1.00 18.93           O
ATOM   2591  N   PRO A 338      34.333  48.010  45.032  1.00 20.41           N
ATOM   2592  CA  PRO A 338      34.959  49.253  45.503  1.00 20.40           C
ATOM   2593  C   PRO A 338      36.368  49.500  44.923  1.00 20.13           C
ATOM   2594  O   PRO A 338      36.674  50.630  44.548  1.00 19.20           O
ATOM   2595  CB  PRO A 338      34.960  49.092  47.035  1.00 20.63           C
ATOM   2596  CG  PRO A 338      33.749  48.261  47.298  1.00 21.17           C
ATOM   2597  CD  PRO A 338      33.782  47.221  46.151  1.00 20.95           C
ATOM   2598  N   LEU A 339      37.199  48.470  44.831  1.00 20.34           N
ATOM   2599  CA  LEU A 339      38.518  48.655  44.234  1.00 20.55           C
ATOM   2600  C   LEU A 339      38.382  49.060  42.768  1.00 20.06           C
ATOM   2601  O   LEU A 339      39.020  50.019  42.330  1.00 19.61           O
ATOM   2602  CB  LEU A 339      39.383  47.408  44.358  1.00 20.81           C
ATOM   2603  CG  LEU A 339      40.855  47.618  43.943  1.00 22.54           C
ATOM   2604  CD1 LEU A 339      41.809  46.817  44.786  1.00 25.30           C
ATOM   2605  CD2 LEU A 339      41.035  47.209  42.496  1.00 23.17           C
ATOM   2606  N   LEU A 340      37.526  48.361  42.023  1.00 19.51           N
ATOM   2607  CA  LEU A 340      37.327  48.687  40.600  1.00 19.36           C
ATOM   2608  C   LEU A 340      36.827  50.120  40.427  1.00 19.30           C
ATOM   2609  O   LEU A 340      37.318  50.861  39.566  1.00 17.55           O
ATOM   2610  CB  LEU A 340      36.361  47.721  39.952  1.00 19.31           C
ATOM   2611  CG  LEU A 340      36.929  46.333  39.637  1.00 21.99           C
ATOM   2612  CD1 LEU A 340      35.842  45.506  39.069  1.00 22.03           C
ATOM   2613  CD2 LEU A 340      38.140  46.390  38.673  1.00 21.20           C
ATOM   2614  N   ASN A 341      35.879  50.521  41.270  1.00 19.17           N
ATOM   2615  CA  ASN A 341      35.369  51.887  41.232  1.00 20.20           C
ATOM   2616  C   ASN A 341      36.465  52.914  41.530  1.00 19.98           C
ATOM   2617  O   ASN A 341      36.598  53.920  40.848  1.00 19.61           O
ATOM   2618  CB  ASN A 341      34.181  52.043  42.196  1.00 20.66           C
ATOM   2619  CG  ASN A 341      32.898  51.459  41.619  1.00 24.17           C
ATOM   2620  OD1 ASN A 341      32.484  51.843  40.531  1.00 30.93           O
ATOM   2621  ND2 ASN A 341      32.294  50.499  42.317  1.00 26.37           N
ATOM   2622  N   THR A 342      37.245  52.633  42.558  1.00 20.07           N
ATOM   2623  CA  THR A 342      38.351  53.489  42.939  1.00 20.49           C
ATOM   2624  C   THR A 342      39.322  53.613  41.763  1.00 20.27           C
ATOM   2625  O   THR A 342      39.835  54.688  41.502  1.00 19.66           O
ATOM   2626  CB  THR A 342      39.001  52.909  44.189  1.00 20.82           C
ATOM   2627  OG1 THR A 342      38.123  53.124  45.320  1.00 22.13           O
ATOM   2628  CG2 THR A 342      40.308  53.625  44.545  1.00 21.01           C
ATOM   2629  N   MET A 343      39.517  52.525  41.024  1.00 20.30           N
ATOM   2630  CA  MET A 343      40.402  52.543  39.873  1.00 20.66           C
ATOM   2631  C   MET A 343      39.932  53.445  38.758  1.00 20.29           C
ATOM   2632  O   MET A 343      40.750  54.119  38.129  1.00 19.31           O
ATOM   2633  CB  MET A 343      40.560  51.157  39.270  1.00 20.76           C
ATOM   2634  CG  MET A 343      41.810  50.453  39.625  1.00 23.39           C
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ATOM   2635  SD  MET A 343      42.247  49.059  38.524  1.00 25.69           S
ATOM   2636  CE  MET A 343      41.161  48.058  38.968  1.00 26.74           C
ATOM   2637  N   ILE A 344      38.631  53.438  38.466  1.00 20.76           N
ATOM   2638  CA  ILE A 344      38.167  54.187  37.312  1.00 21.23           C
ATOM   2639  C   ILE A 344      37.648  55.577  37.565  1.00 20.71           C
ATOM   2640  O   ILE A 344      37.763  56.403  36.666  1.00 20.65           O
ATOM   2641  CB  ILE A 344      37.109  53.400  36.458  1.00 22.07           C
ATOM   2642  CG1 ILE A 344      35.710  53.613  36.992  1.00 23.91           C
ATOM   2643  CG2 ILE A 344      37.482  51.943  36.352  1.00 24.35           C
ATOM   2644  CD1 ILE A 344      34.650  53.199  36.033  1.00 28.26           C
ATOM   2645  N   LYS A 345      37.069  55.886  38.726  1.00 20.84           N
ATOM   2646  CA  LYS A 345      36.482  57.231  38.817  1.00 21.15           C
ATOM   2647  C   LYS A 345      37.464  58.376  38.784  1.00 19.86           C
ATOM   2648  O   LYS A 345      38.459  58.429  39.517  1.00 19.23           O
ATOM   2649  CB  LYS A 345      35.438  57.451  39.922  1.00 22.66           C
ATOM   2650  CG  LYS A 345      35.562  56.714  41.190  1.00 27.82           C
ATOM   2651  CD  LYS A 345      34.214  56.021  41.489  1.00 30.51           C
ATOM   2652  CE  LYS A 345      33.398  56.782  42.502  1.00 32.51           C
ATOM   2653  NZ  LYS A 345      34.069  56.806  43.829  1.00 37.63           N
ATOM   2654  N   GLY A 346      37.143  59.307  37.899  1.00 18.18           N
ATOM   2655  CA  GLY A 346      37.978  60.453  37.644  1.00 17.22           C
ATOM   2656  C   GLY A 346      39.303  60.105  36.978  1.00 16.31           C
ATOM   2657  O   GLY A 346      40.172  60.949  36.889  1.00 16.63           O
ATOM   2658  N   ARG A 347      39.453  58.872  36.531  1.00 16.85           N
ATOM   2659  CA  ARG A 347      40.697  58.413  35.904  1.00 17.52           C
ATOM   2660  C   ARG A 347      40.469  57.811  34.502  1.00 17.57           C
ATOM   2661  O   ARG A 347      41.178  58.143  33.559  1.00 17.10           O
ATOM   2662  CB  ARG A 347      41.379  57.384  36.812  1.00 17.20           C
ATOM   2663  CG  ARG A 347      41.822  57.949  38.181  1.00 16.77           C
ATOM   2664  CD  ARG A 347      43.287  57.491  38.583  1.00 18.88           C
ATOM   2665  NE  ARG A 347      43.254  56.087  38.618  1.00 17.77           N
ATOM   2666  CZ  ARG A 347      44.115  55.220  38.149  1.00 16.11           C
ATOM   2667  NH1 ARG A 347      45.323  55.512  37.658  1.00 16.59           N
ATOM   2668  NH2 ARG A 347      43.734  53.978  38.276  1.00 13.22           N
ATOM   2669  N   TYR A 348      39.472  56.954  34.375  1.00 18.74           N
ATOM   2670  CA  TYR A 348      39.138  56.317  33.091  1.00 20.48           C
ATOM   2671  C   TYR A 348      37.674  56.499  32.671  1.00 21.75           C
ATOM   2672  O   TYR A 348      37.296  56.047  31.596  1.00 22.39           O
ATOM   2673  CB  TYR A 348      39.411  54.800  33.124  1.00 19.97           C
ATOM   2674  CG  TYR A 348      40.874  54.384  33.199  1.00 19.65           C
ATOM   2675  CD1 TYR A 348      41.661  54.310  32.054  1.00 18.48           C
ATOM   2676  CD2 TYR A 348      41.458  54.051  34.414  1.00 17.73           C
ATOM   2677  CE1 TYR A 348      42.986  53.921  32.122  1.00 19.00           C
ATOM   2678  CE2 TYR A 348      42.775  53.667  34.494  1.00 18.72           C
ATOM   2679  CZ  TYR A 348      43.543  53.600  33.339  1.00 18.96           C
ATOM   2680  OH  TYR A 348      44.856  53.203  33.419  1.00 17.77           O
ATOM   2681  N   ASN A 349      36.837  57.123  33.488  1.00 23.99           N
ATOM   2682  CA  ASN A 349      35.429  57.244  33.089  1.00 26.57           C
ATOM   2683  C   ASN A 349      34.947  58.611  32.689  1.00 27.62           C
ATOM   2684  O   ASN A 349      35.646  59.606  32.655  1.00 28.49           O
ATOM   2685  CB  ASN A 349      34.496  56.720  34.150  1.00 26.11           C
ATOM   2686  CG  ASN A 349      34.511  57.552  35.386  1.00 28.01           C
ATOM   2687  OD1 ASN A 349      35.282  58.518  35.517  1.00 29.49           O
ATOM   2688  ND2 ASN A 349      33.658  57.173  36.342  1.00 31.84           N
ATOM   2689  OXT ASN A 349      33.761  58.686  32.399  1.00 31.04           O
TER    2690      ASN A 349
ATOM   2691  N   LEU S 795      45.837  35.555  30.600  1.00 35.49           N
ATOM   2692  CA  LEU S 795      44.757  36.539  30.946  1.00 35.77           C
ATOM   2693  C   LEU S 795      43.580  36.250  30.030  1.00 35.54           C
ATOM   2694  O   LEU S 795      42.418  36.338  30.412  1.00 34.79           O
ATOM   2695  CB  LEU S 795      45.257  37.967  30.787  1.00 36.01           C
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ATOM   2696  CG  LEU S 795      44.695  38.978  31.791  1.00 37.16           C
ATOM   2697  CD1 LEU S 795      44.761  38.459  33.204  1.00 37.65           C
ATOM   2698  CD2 LEU S 795      45.450  40.289  31.718  1.00 38.07           C
ATOM   2699  N   THR S 796      43.936  35.940  28.796  1.00 35.47           N
ATOM   2700  CA  THR S 796      43.060  35.351  27.800  1.00 36.25           C
ATOM   2701  C   THR S 796      42.644  33.888  28.079  1.00 35.84           C
ATOM   2702  O   THR S 796      41.819  33.331  27.365  1.00 36.38           O
ATOM   2703  CB  THR S 796      43.817  35.429  26.457  1.00 36.63           C
ATOM   2704  OG1 THR S 796      43.251  34.528  25.524  1.00 38.48           O
ATOM   2705  CG2 THR S 796      45.257  34.907  26.593  1.00 37.07           C
ATOM   2706  N   SER S 797      43.197  33.251  29.101  1.00 35.44           N
ATOM   2707  CA  SER S 797      42.835  31.860  29.377  1.00 35.29           C
ATOM   2708  C   SER S 797      41.426  31.760  29.984  1.00 35.18           C
ATOM   2709  O   SER S 797      40.925  32.701  30.611  1.00 33.96           O
ATOM   2710  CB  SER S 797      43.856  31.189  30.291  1.00 35.17           C
ATOM   2711  OG  SER S 797      43.716  31.654  31.624  1.00 36.65           O
ATOM   2712  N   TYR S 798      40.789  30.611  29.790  1.00 35.36           N
ATOM   2713  CA  TYR S 798      39.427  30.430  30.256  1.00 35.94           C
ATOM   2714  C   TYR S 798      39.148  29.075  30.890  1.00 35.14           C
ATOM   2715  O   TYR S 798      39.845  28.095  30.657  1.00 35.54           O
ATOM   2716  CB  TYR S 798      38.440  30.707  29.120  1.00 36.37           C
ATOM   2717  CG  TYR S 798      38.554  29.794  27.920  1.00 39.89           C
ATOM   2718  CD1 TYR S 798      39.587  29.934  26.996  1.00 42.41           C
ATOM   2719  CD2 TYR S 798      37.606  28.808  27.697  1.00 43.13           C
ATOM   2720  CE1 TYR S 798      39.681  29.095  25.893  1.00 43.97           C
ATOM   2721  CE2 TYR S 798      37.687  27.963  26.597  1.00 44.94           C
ATOM   2722  CZ  TYR S 798      38.723  28.109  25.698  1.00 44.95           C
ATOM   2723  OH  TYR S 798      38.781  27.270  24.613  1.00 44.37           O
ATOM   2724  N   ASP S 799      38.108  29.046  31.709  1.00 34.54           N
ATOM   2725  CA  ASP S 799      37.685  27.840  32.392  1.00 33.87           C
ATOM   2726  C   ASP S 799      36.600  27.187  31.545  1.00 32.58           C
ATOM   2727  O   ASP S 799      36.465  27.501  30.366  1.00 32.32           O
ATOM   2728  CB  ASP S 799      37.140  28.208  33.770  1.00 34.50           C
ATOM   2729  CG  ASP S 799      37.299  27.104  34.773  1.00 36.07           C
ATOM   2730  OD1 ASP S 799      36.790  25.986  34.551  1.00 37.15           O
ATOM   2731  OD2 ASP S 799      37.918  27.279  35.833  1.00 41.54           O
ATOM   2732  N   CYS S 800      35.812  26.301  32.141  1.00 30.83           N
ATOM   2733  CA  CYS S 800      34.798  25.586  31.392  1.00 29.83           C
ATOM   2734  C   CYS S 800      33.490  25.511  32.161  1.00 29.15           C
ATOM   2735  O   CYS S 800      32.794  24.502  32.092  1.00 28.68           O
ATOM   2736  CB  CYS S 800      35.273  24.167  31.092  1.00 29.46           C
ATOM   2737  SG  CYS S 800      35.576  23.194  32.601  1.00 30.36           S
ATOM   2738  N   GLU S 801      33.152  26.578  32.874  1.00 28.36           N
ATOM   2739  CA  GLU S 801      31.936  26.605  33.670  1.00 28.63           C
ATOM   2740  C   GLU S 801      30.667  26.793  32.829  1.00 28.34           C
ATOM   2741  O   GLU S 801      30.626  27.562  31.867  1.00 27.30           O
ATOM   2742  CB  GLU S 801      32.038  27.688  34.751  1.00 28.61           C
ATOM   2743  CG  GLU S 801      33.252  27.501  35.655  1.00 30.83           C
ATOM   2744  CD  GLU S 801      33.188  28.346  36.907  1.00 32.58           C
ATOM   2745  OE1 GLU S 801      32.414  27.985  37.805  1.00 33.57           O
ATOM   2746  OE2 GLU S 801      33.910  29.362  36.989  1.00 33.97           O
ATOM   2747  N   VAL S 802      29.627  26.062  33.212  1.00 28.85           N
ATOM   2748  CA  VAL S 802      28.350  26.079  32.515  1.00 29.03           C
ATOM   2749  C   VAL S 802      27.233  26.056  33.546  1.00 29.80           C
ATOM   2750  O   VAL S 802      27.505  25.948  34.726  1.00 29.92           O
ATOM   2751  CB  VAL S 802      28.221  24.834  31.606  1.00 28.44           C
ATOM   2752  CG1 VAL S 802      29.288  24.856  30.523  1.00 26.99           C
ATOM   2753  CG2 VAL S 802      28.333  23.551  32.428  1.00 29.08           C
ATOM   2754  N   ASN S 803      25.978  26.135  33.111  1.00 31.09           N
ATOM   2755  CA  ASN S 803      24.853  26.053  34.042  1.00 32.53           C
ATOM   2756  C   ASN S 803      24.550  24.641  34.497  1.00 33.81           C
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ATOM   2757  O   ASN S 803      23.456  24.143  34.270  1.00 34.27           O
ATOM   2758  CB  ASN S 803      23.575  26.659  33.463  1.00 32.29           C
ATOM   2759  CG  ASN S 803      23.640  28.146  33.367  1.00 31.77           C
ATOM   2760  OD1 ASN S 803      24.688  28.741  33.616  1.00 33.47           O
ATOM   2761  ND2 ASN S 803      22.525  28.772  33.005  1.00 29.83           N
ATOM   2762  N   ALA S 804      25.521  24.015  35.147  1.00 35.23           N
ATOM   2763  CA  ALA S 804      25.365  22.689  35.740  1.00 36.86           C
ATOM   2764  C   ALA S 804      26.577  22.452  36.638  1.00 37.98           C
ATOM   2765  O   ALA S 804      27.660  22.949  36.360  1.00 37.44           O
ATOM   2766  CB  ALA S 804      25.285  21.610  34.676  1.00 36.63           C
ATOM   2767  N   PRO S 805      26.394  21.694  37.711  1.00 40.20           N
ATOM   2768  CA  PRO S 805      27.495  21.381  38.635  1.00 41.46           C
ATOM   2769  C   PRO S 805      28.572  20.511  37.983  1.00 42.51           C
ATOM   2770  O   PRO S 805      28.342  19.931  36.938  1.00 43.07           O
ATOM   2771  CB  PRO S 805      26.799  20.615  39.774  1.00 41.54           C
ATOM   2772  CG  PRO S 805      25.506  20.116  39.185  1.00 41.29           C
ATOM   2773  CD  PRO S 805      25.117  21.076  38.115  1.00 40.40           C
ATOM   2774  N   ILE S 806      29.728  20.406  38.622  1.00 44.25           N
ATOM   2775  CA  ILE S 806      30.854  19.627  38.099  1.00 44.96           C
ATOM   2776  C   ILE S 806      30.770  18.169  38.532  1.00 45.18           C
ATOM   2777  O   ILE S 806      29.902  17.801  39.323  1.00 45.78           O
ATOM   2778  CB  ILE S 806      32.197  20.246  38.569  1.00 45.19           C
ATOM   2779  CG1 ILE S 806      32.412  20.018  40.070  1.00 46.10           C
ATOM   2780  CG2 ILE S 806      32.230  21.743  38.246  1.00 46.08           C
ATOM   2781  CD1 ILE S 806      33.740  20.574  40.597  1.00 46.98           C
ATOM   2782  N   LEU S 812      29.934   8.629  39.561  1.00 43.80           N
ATOM   2783  CA  LEU S 812      29.027   8.736  38.425  1.00 43.90           C
ATOM   2784  C   LEU S 812      29,761   9.243  37.182  1.00 43.45           C
ATOM   2785  O   LEU S 812      30.160  10.410  37.114  1.00 43.36           O
ATOM   2786  CB  LEU S 812      27.862   9.678  38.757  1.00 44.22           C
ATOM   2787  CG  LEU S 812      26.979   9.292  39.951  1.00 45.50           C
ATOM   2788  CD1 LEU S 812      25.871  10.341  40.144  1.00 46.20           C
ATOM   2789  CD2 LEU S 812      26.385   7.894  39.793  1.00 45.08           C
ATOM   2790  N   LEU S 813      29.928   8.375  36.190  1.00 42.70           N
ATOM   2791  CA  LEU S 813      30.620   8.776  34.969  1.00 42.21           C
ATOM   2792  C   LEU S 813      29.711   9.604  34.057  1.00 41.46           C
ATOM   2793  O   LEU S 813      28.492   9.438  34.062  1.00 41.23           O
ATOM   2794  CB  LEU S 813      31.167   7.554  34.225  1.00 42.30           C
ATOM   2795  CG  LEU S 813      32.093   6.644  35.046  1.00 42.35           C
ATOM   2796  CD1 LEU S 813      32.494   5.419  34.233  1.00 42.48           C
ATOM   2797  CD2 LEU S 813      33.322   7.398  35.527  1.00 41.80           C
ATOM   2798  N   GLN S 814      30.326  10.492  33.283  1.00 40.74           N
ATOM   2799  CA  GLN S 814      29.603  11.385  32.378  1.00 40.26           C
ATOM   2800  C   GLN S 814      30.475  11.775  31.190  1.00 39.82           C
ATOM   2801  O   GLN S 814      31.674  11.514  31.176  1.00 39.19           O
ATOM   2802  CB  GLN S 814      29.173  12.649  33.122  1.00 40.24           C
ATOM   2803  CG  GLN S 814      30.336  13.501  33.615  1.00 40.51           C
ATOM   2804  CD  GLN S 814      29.879  14.725  34.406  1.00 41.88           C
ATOM   2805  OE1 GLN S 814      29.200  14.590  35.419  1.00 41.86           O
ATOM   2806  NE2 GLN S 814      30.253  15.919  33.940  1.00 40.63           N
ATOM   2807  N   GLY S 815      29.864  12.416  30.200  1.00 39.81           N
ATOM   2808  CA  GLY S 815      30.568  12.851  29.012  1.00 39.53           C
ATOM   2809  C   GLY S 815      31.402  11.755  28.365  1.00 39.85           C
ATOM   2810  O   GLY S 815      30.962  10.609  28.210  1.00 38.55           O
ATOM   2811  N   GLU S 816      32.624  12.123  27.995  1.00 40.44           N
ATOM   2812  CA  GLU S 816      33.553  11.208  27.352  1.00 41.24           C
ATOM   2813  C   GLU S 816      33.744   9.926  28.154  1.00 41.73           C
ATOM   2814  O   GLU S 816      33.895   8.852  27.577  1.00 41.11           O
ATOM   2815  CB  GLU S 816      34.909  11.884  27.148  1.00 41.24           C
ATOM   2816  CG  GLU S 816      35.752  11.238  26.063  1.00 42.19           C
ATOM   2817  CD  GLU S 816      37.161  11.790  26.019  1.00 43.70           C
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ATOM   2818  OE1 GLU S 816      37.985  11.311  26.814  1.00 45.25           O
ATOM   2819  OE2 GLU S 816      37.447  12.696  25.201  1.00 44.50           O
ATOM   2820  N   GLU S 817      33.724  10.039  29.479  1.00 42.66           N
ATOM   2821  CA  GLU S 817      33.925   8.877  30.340  1.00 43.73           C
ATOM   2822  C   GLU S 817      32.744   7.917  30.268  1.00 44.19           C
ATOM   2823  O   GLU S 817      32.930   6.699  30.252  1.00 43.99           O
ATOM   2824  CB  GLU S 817      34.167   9.308  31.788  1.00 43.81           C
ATOM   2825  CG  GLU S 817      35.463  10.077  31.989  1.00 44.98           C
ATOM   2826  CD  GLU S 817      35.337  11.569  31.688  1.00 46.95           C
ATOM   2827  OE1 GLU S 817      34.221  12.052  31.394  1.00 48.87           O
ATOM   2828  OE2 GLU S 817      36.362  12.277  31.748  1.00 49.02           O
ATOM   2829  N   LEU S 818      31.536   8.470  30.231  1.00 44.93           N
ATOM   2830  CA  LEU S 818      30.335   7.663  30.149  1.00 45.78           C
ATOM   2831  C   LEU S 818      30.359   6.882  28.846  1.00 46.89           C
ATOM   2832  O   LEU S 818      30.163   5.663  28.833  1.00 46.50           O
ATOM   2833  CB  LEU S 818      29.077   8.537  30.219  1.00 45.65           C
ATOM   2834  CG  LEU S 818      27.741   7.788  30.147  1.00 45.58           C
ATOM   2835  CD1 LEU S 818      27.612   6.809  31.318  1.00 45.36           C
ATOM   2836  CD2 LEU S 818      26.551   8.719  30.133  1.00 43.95           C
ATOM   2837  N   LEU S 819      30.654   7.588  27.760  1.00 48.01           N
ATOM   2838  CA  LEU S 819      30.607   7.014  26.420  1.00 49.24           C
ATOM   2839  C   LEU S 819      31.559   5.829  26.247  1.00 50.32           C
ATOM   2840  O   LEU S 819      31.169   4.777  25.731  1.00 50.11           O
ATOM   2841  CB  LEU S 819      30.903   8.105  25.380  1.00 49.22           C
ATOM   2842  CG  LEU S 819      30.848   7.724  23.901  1.00 49.32           C
ATOM   2843  CD1 LEU S 819      29.495   7.178  23.497  1.00 48.73           C
ATOM   2844  CD2 LEU S 819      31.205   8.940  23.058  1.00 49.85           C
ATOM   2845  N   ARG S 820      32.801   6.005  26.684  1.00 51.33           N
ATOM   2846  CA  ARG S 820      33.807   4.966  26.550  1.00 52.53           C
ATOM   2847  C   ARG S 820      33.471   3.748  27.414  1.00 52.95           C
ATOM   2848  O   ARG S 820      33.534   2.606  26.942  1.00 53.06           O
ATOM   2849  CB  ARG S 820      35.185   5.529  26.898  1.00 52.91           C
ATOM   2850  CG  ARG S 820      35.620   6.583  25.904  1.00 54.20           C
ATOM   2851  CD  ARG S 820      37.044   7.046  26.040  1.00 55.94           C
ATOM   2852  NE  ARG S 820      37.320   8.113  25.081  1.00 58.09           N
ATOM   2853  CZ  ARG S 820      38.453   8.808  25.022  1.00 59.82           C
ATOM   2854  NH1 ARG S 820      39.448   8.555  25.867  1.00 60.28           N
ATOM   2855  NH2 ARG S 820      38.590   9.765  24.108  1.00 60.61           N
ATOM   2856  N   ALA S 821      33.106   3.994  28.670  1.00 53.36           N
ATOM   2857  CA  ALA S 821      32.698   2.920  29.561  1.00 53.67           C
ATOM   2858  C   ALA S 821      31.598   2.094  28.892  1.00 54.08           C
ATOM   2859  O   ALA S 821      31.648   0.862  28.897  1.00 54.01           O
ATOM   2860  CB  ALA S 821      32.215   3.479  30.883  1.00 53.55           C
ATOM   2861  N   LEU S 822      30.616   2.777  28.308  1.00 54.44           N
ATOM   2862  CA  LEU S 822      29.516   2.110  27.622  1.00 54.93           C
ATOM   2863  C   LEU S 822      30.007   1.342  26.398  1.00 55.41           C
ATOM   2864  O   LEU S 822      29.557   0.230  26.143  1.00 55.60           O
ATOM   2865  CB  LEU S 822      28.445   3.117  27.212  1.00 54.90           C
ATOM   2866  CG  LEU S 822      27.667   3.756  28.361  1.00 54.80           C
ATOM   2867  CD1 LEU S 822      26.531   4.601  27.801  1.00 54.39           C
ATOM   2868  CD2 LEU S 822      27.139   2.702  29.335  1.00 54.48           C
ATOM   2869  N   ASP S 823      30.911   1.949  25.634  1.00 55.82           N
ATOM   2870  CA  ASP S 823      31.525   1.282  24.492  1.00 56.04           C
ATOM   2871  C   ASP S 823      32.893   0.735  24.901  1.00 56.10           C
ATOM   2872  O   ASP S 823      33.186  -0.451  24.731  1.00 56.09           O
ATOM   2873  CB  ASP S 823      31.688   2.252  23.320  1.00 56.21           C
ATOM   2874  CG  ASP S 823      31.858   1.535  21.997  1.00 56.45           C
ATOM   2875  OD1 ASP S 823      32.245   0.351  22.028  1.00 58.65           O
ATOM   2876  OD2 ASP S 823      31.628   2.056  20.885  1.00 56.19           O
TER    2877       ASP S 823
HETATM 2878  FE  FE2 A1350      23.294  27.501  28.594  1.00 20.46          FE
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HETATM 2879  C1  OGA A1351      22.091  25.173  27.594  1.00 24.79           C
HETATM 2880  C2  OGA A1351      21.066  25.829  28.202  1.00 24.27           C
HETATM 2881  C4  OGA A1351      18.756  25.714  29.004  1.00 23.09           C
HETATM 2882  C5  OGA A1351      17.415  25.241  28.495  1.00 23.17           C
HETATM 2883  O1  OGA A1351      21.909  24.061  27.090  1.00 25.24           O
HETATM 2884  O2  OGA A1351      23.219  25.658  27.531  1.00 24.40           O
HETATM 2885  O2' OGA A1351      21.192  26.959  28.711  1.00 21.19           O
HETATM 2886  O3  OGA A1351      16.416  25.662  29.055  1.00 23.03           O
HETATM 2887  N1  OGA A1351      19.886  25.203  28.228  1.00 21.70           N
HETATM 2888  O4  OGA A1351      17.332  24.475  27.537  1.00 23.98           O
HETATM 2889  S   SO4 A1352       0.316  25.182  43.602  1.00 77.77           S
HETATM 2890  O1  SO4 A1352       1.239  25.980  44.403  1.00 77.64           O
HETATM 2891  O2  SO4 A1352       1.075  24.260  42.760  1.00 77.88           O
HETATM 2892  O3  SO4 A1352      -0.525  24.416  44.514  1.00 78.38           O
HETATM 2893  O4  SO4 A1352      -0.507  26.042  42.757  1.00 76.90           O
HETATM 2894  S   SO4 A1353       1.990  28.487  29.834  1.00 69.20           S
HETATM 2895  O1  SO4 A1353       3.243  29.065  30.309  1.00 68.34           O
HETATM 2896  O2  SO4 A1353       2.236  27.438  28.847  1.00 67.90           O
HETATM 2897  O3  SO4 A1353       1.298  27.948  31.009  1.00 70.32           O
HETATM 2898  O4  SO4 A1353       1.162  29.517  29.203  1.00 69.63           O
HETATM 2899  O   HOH H    1     35.955  31.618  40.285  1.00 80.01           O
HETATM 2900  O   HOH H    2     38.513  33.804  31.613  1.00 33.04           O
HETATM 2901  O   HOH H    3     36.648  25.786  38.779  1.00 76.96           O
HETATM 2902  O   HOH H    4     38.106  25.337  29.179  1.00 54.79           O
HETATM 2903  O   HOH H    5     34.990  30.561  34.967  1.00 30.13           O
HETATM 2904  O   HOH H    6     33.934  31.237  38.711  1.00 40.66           O
HETATM 2905  O   HOH H    7     30.766  25.787  37.613  1.00 54.75           O
HETATM 2906  O   HOH H    8     33.667  28.867  40.196  1.00 59.66           O
HETATM 2907  O   HOH H    9     28.622  27.043  37.556  1.00 57.58           O
HETATM 2908  O   HOH H   10     19.894  26.655  33.706  1.00 54.88           O
HETATM 2909  O   HOH H   11     30.052  24.213  35.628  1.00 41.23           O
HETATM 2910  O   HOH H   12     28.737  12.960  37.083  1.00 59.80           O
HETATM 2911  O   HOH H   13     35.568  13.822  23.888  1.00 38.00           O
HETATM 2912  O   HOH H   14     30.722  -1.323  21.296  1.00 48.92           O
HETATM 2913  O   HOH H   15     32.110   2.136  17.673  1.00 69.92           O
HETATM 2914  O   HOH Z    1      9.466  21.720  12.039  1.00 63.79           O
HETATM 2915  O   HOH Z    2      1.367  21.270   7.724  1.00 60.01           O
HETATM 2916  O   HOH Z    3      3.426  13.325   8.811  1.00 43.04           O
HETATM 2917  O   HOH Z    4     -0.760  13.029   7.574  1.00 47.08           O
HETATM 2918  O   HOH Z    5      2.515  19.304   5.195  1.00 46.76           O
HETATM 2919  O   HOH Z    6      4.861  33.534  13.331  1.00 75.60           O
HETATM 2920  O   HOH Z    7      1.403  29.250  13.007  1.00 46.80           O
HETATM 2921  O   HOH Z    8      1.614  32.100  13.758  1.00 66.18           O
HETATM 2922  O   HOH Z    9     12.671  34.540  13.968  1.00 43.83           O
HETATM 2923  O   HOH Z   10     11.399   2.867  17.750  1.00 68.06           O
HETATM 2924  O   HOH Z   11     -1.220  30.205  22.820  1.00 80.54           O
HETATM 2925  O   HOH Z   12      6.576  36.529  29.511  1.00 43.88           O
HETATM 2926  O   HOH Z   13      3.525  32.513  31.866  1.00 65.87           O
HETATM 2927  O   HOH Z   14      5.033  37.447  27.566  1.00 54.03           O
HETATM 2928  O   HOH Z   15     10.981  35.615  30.196  1.00 36.24           O
HETATM 2929  O   HOH Z   16     12.816  42.461  26.787  1.00 37.83           O
HETATM 2930  O   HOH Z   17     13.508  37.138  13.905  1.00 50.79           O
HETATM 2931  O   HOH Z   18     16.409   3.305  16.425  1.00 59.87           O
HETATM 2932  O   HOH Z   19     14.424   4.598  17.530  1.00 54.39           O
HETATM 2933  O   HOH Z   20     11.439   7.927  15.708  1.00 63.10           O
HETATM 2934  O   HOH Z   21     15.821  30.360  12.573  1.00 43.61           O
HETATM 2935  O   HOH Z   22     13.496  22.189   7.246  1.00 57.93           O
HETATM 2936  O   HOH Z   23     17.591  29.863   7.160  1.00 49.97           O
HETATM 2937  O   HOH Z   24     14.617  26.200  13.898  1.00 48.56           O
HETATM 2938  O   HOH Z   25     20.840  23.785   3.695  1.00 38.79           O
HETATM 2939  O   HOH Z   26     27.946  19.151   9.101  1.00 43.14           O
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HETATM 2940  O   HOH Z  27      23.279  21.788   0.672  1.00 62.23           O
HETATM 2941  O   HOH Z  28      27.443  22.009  43.177  1.00 68.81           O
HETATM 2942  O   HOH Z  29      27.326  30.900   5.769  1.00 84.31           O
HETATM 2943  O   HOH Z  30      16.938  35.662  41.749  1.00 51.88           O
HETATM 2944  O   HOH Z  31      36.792  29.262  21.033  1.00 42.38           O
HETATM 2945  O   HOH Z  32      26.719  37.403  13.167  1.00 60.20           O
HETATM 2946  O   HOH Z  33      29.797  37.021  10.379  1.00 60.24           O
HETATM 2947  O   HOH Z  34      28.365  37.713  15.023  1.00 68.08           O
HETATM 2948  O   HOH Z  35      27.471  34.815   9.298  1.00 63.90           O
HETATM 2949  O   HOH Z  36      24.262  32.919  12.792  1.00 45.02           O
HETATM 2950  O   HOH Z  37      19.704  17.909  13.178  1.00 28.78           O
HETATM 2951  O   HOH Z  38      22.022  12.870   8.792  1.00 48.37           O
HETATM 2952  O   HOH Z  39      18.151  14.971  12.982  1.00 36.76           O
HETATM 2953  O   HOH Z  40      29.160   5.439  16.977  1.00 44.05           O
HETATM 2954  O   HOH Z  41      18.863  14.590  16.204  1.00 30.84           O
HETATM 2955  O   HOH Z  42      12.149   5.293  13.385  1.00 72.13           O
HETATM 2956  O   HOH Z  43      15.651   2.782  13.845  1.00 41.52           O
HETATM 2957  O   HOH Z  44      14.014   7.467  18.234  1.00 52.22           O
HETATM 2958  O   HOH Z  45       5.548  12.548  27.846  1.00 38.03           O
HETATM 2959  O   HOH Z  46      12.742   5.782  36.187  1.00 51.07           O
HETATM 2960  O   HOH Z  47      19.063   6.567  36.600  1.00 49.16           O
HETATM 2961  O   HOH Z  48      19.545   2.633  38.104  1.00 67.28           O
HETATM 2962  O   HOH Z  49       7.710  14.276  19.473  1.00 48.41           O
HETATM 2963  O   HOH Z  50      15.732   7.234  38.833  1.00 54.12           O
HETATM 2964  O   HOH Z  51      21.932  13.291  44.351  1.00 62.49           O
HETATM 2965  O   HOH Z  52      33.998  44.086  25.334  1.00 53.56           O
HETATM 2966  O   HOH Z  53      12.673  21.178  43.612  1.00 63.01           O
HETATM 2967  O   HOH Z  54       8.172  26.738  44.107  1.00 61.46           O
HETATM 2968  O   HOH Z  55       9.613  30.854  42.520  1.00 54.56           O
HETATM 2969  O   HOH Z  56      13.563  35.806  31.131  1.00 39.09           O
HETATM 2970  O   HOH Z  57      15.688  37.473  35.304  1.00 47.58           O
HETATM 2971  O   HOH Z  58       7.422  43.868  25.982  1.00 75.57           O
HETATM 2972  O   HOH Z  59       7.978  38.223  34.865  1.00 59.51           O
HETATM 2973  O   HOH Z  60      16.338  30.836  40.223  1.00 38.80           O
HETATM 2974  O   HOH Z  61      17.035  27.760  38.288  1.00 52.22           O
HETATM 2975  O   HOH Z  62      22.131  25.023  41.390  1.00 55.16           O
HETATM 2976  O   HOH Z  63      29.869  29.910  39.122  1.00 47.28           O
HETATM 2977  O   HOH Z  64      28.353  24.399  41.766  1.00 60.35           O
HETATM 2978  O   HOH Z  65      31.794  27.570  41.962  1.00 48.59           O
HETATM 2979  O   HOH Z  66      28.058  28.695  48.927  1.00 65.95           O
HETATM 2980  O   HOH Z  67      24.838  24.783  42.190  1.00 52.90           O
HETATM 2981  O   HOH Z  68      11.541  32.183  15.082  1.00 63.99           O
HETATM 2982  O   HOH Z  69      31.599  33.767  45.823  1.00 44.28           O
HETATM 2983  O   HOH Z  70      24.728  38.721  49.282  1.00 48.25           O
HETATM 2984  O   HOH Z  71      16.271  36.399  44.087  1.00 58.46           O
HETATM 2985  O   HOH Z  72      17.845  37.716  46.244  1.00 57.93           O
HETATM 2986  O   HOH Z  73      16.480  33.117  41.520  1.00 59.15           O
HETATM 2987  O   HOH Z  74      40.791  21.415  26.920  1.00 58.98           O
HETATM 2988  O   HOH Z  75      21.842  17.819  48.106  1.00 67.11           O
HETATM 2989  O   HOH Z  76       8.791  17.468  46.626  1.00 63.28           O
HETATM 2990  O   HOH Z  77      17.141  16.914  47.607  1.00 52.87           O
HETATM 2991  O   HOH Z  78      21.626  14.804  40.702  1.00 53.91           O
HETATM 2992  O   HOH Z  79      39.117  50.091  47.735  1.00 57.17           O
HETATM 2993  O   HOH Z  80      10.617  19.257  44.587  1.00 69.00           O
HETATM 2994  O   HOH Z  81       1.682  24.435  36.842  1.00 55.40           O
HETATM 2995  O   HOH Z  82       4.627  30.781  36.487  1.00 53.38           O
HETATM 2996  O   HOH Z  83      17.463  26.906  33.818  1.00 38.64           O
HETATM 2997  O   HOH Z  84      18.429  25.785  36.464  1.00 54.65           O
HETATM 2998  O   HOH Z  85      23.466  17.336  36.578  1.00 41.94           O
HETATM 2999  O   HOH Z  86      26.890  12.949  30.365  1.00 49.34           O
HETATM 3000  O   HOH Z  87      21.694  10.405  34.333  1.00 45.95           O
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HETATM 3001  O   HOH Z  88      20.030   9.589  36.847  1.00 52.33           O
HETATM 3002  O   HOH Z  89      18.447  -1.706  32.981  1.00 66.29           O
HETATM 3003  O   HOH Z  90      16.300  -0.205  30.017  1.00 50.70           O
HETATM 3004  O   HOH Z  91      17.950   1.645  20.589  1.00 51.55           O
HETATM 3005  O   HOH Z  92      26.301   5.439  16.918  1.00 36.67           O
HETATM 3006  O   HOH Z  93      33.944  10.218  13.383  1.00 51.60           O
HETATM 3007  O   HOH Z  94      30.893  16.371  11.174  1.00 40.00           O
HETATM 3008  O   HOH Z  95      32.606  13.689  20.709  1.00 45.01           O
HETATM 3009  O   HOH Z  96      31.860  10.158   7.765  1.00 58.55           O
HETATM 3010  O   HOH Z  97      36.957  10.422   7.614  1.00 76.91           O
HETATM 3011  O   HOH Z  98      35.951  16.836  31.735  1.00 59.28           O
HETATM 3012  O   HOH Z  99      39.867  18.412  27.150  1.00 50.38           O
HETATM 3013  O   HOH Z 100      13.436  20.952  28.355  1.00 27.89           O
HETATM 3014  O   HOH Z 101       3.992  21.265  30.540  1.00 43.76           O
HETATM 3015  O   HOH Z 102      30.735  37.910  33.103  1.00 30.45           O
HETATM 3016  O   HOH Z 103      25.986  26.303  26.047  1.00 26.08           O
HETATM 3017  O   HOH Z 104      36.837  32.025  33.001  1.00 37.86           O
HETATM 3018  O   HOH Z 105      35.845  25.360  27.653  1.00 33.53           O
HETATM 3019  O   HOH Z 106      31.874  20.474  33.040  1.00 55.47           O
HETATM 3020  O   HOH Z 107      36.793  26.619  20.918  1.00 34.57           O
HETATM 3021  O   HOH Z 108      17.114  16.909  17.862  1.00 35.83           O
HETATM 3022  O   HOH Z 109       9.968  13.510  19.464  1.00 37.10           O
HETATM 3023  O   HOH Z 110       5.274  16.717  22.023  1.00 44.26           O
HETATM 3024  O   HOH Z 111       7.041  16.862  20.149  1.00 37.71           O
HETATM 3025  O   HOH Z 112       6.517  22.763  22.963  1.00 38.94           O
HETATM 3026  O   HOH Z 113      29.471  38.812  26.249  1.00 22.19           O
HETATM 3027  O   HOH Z 114      32.253  43.121  24.229  1.00 53.95           O
HETATM 3028  O   HOH Z 115      28.797  40.227  16.136  1.00 64.15           O
HETATM 3029  O   HOH Z 116      30.645  39.042  18.925  1.00 33.21           O
HETATM 3030  O   HOH Z 117      25.466  42.302  17.883  1.00 64.00           O
HETATM 3031  O   HOH Z 118      27.698  44.486  31.068  1.00 26.13           O
HETATM 3032  O   HOH Z 119      30.274  44.879  25.031  1.00 38.32           O
HETATM 3033  O   HOH Z 120      27.635  48.525  29.776  1.00 35.59           O
HETATM 3034  O   HOH Z 121      25.933  50.527  30.463  1.00 35.79           O
HETATM 3035  O   HOH Z 122      26.614  31.094  38.158  1.00 32.11           O
HETATM 3036  O   HOH Z 123      29.486  36.934  35.226  1.00 27.40           O
HETATM 3037  O   HOH Z 124      30.510  30.229  36.300  1.00 31.99           O
HETATM 3038  O   HOH Z 125      19.859  31.575  33.786  1.00 31.77           O
HETATM 3039  O   HOH Z 126      18.490  38.301  36.415  1.00 43.54           O
HETATM 3040  O   HOH Z 127      19.538  36.155  33.217  1.00 30.91           O
HETATM 3041  O   HOH Z 128      25.386  44.358  40.124  1.00 54.33           O
HETATM 3042  O   HOH Z 129      21.227  42.704  39.938  1.00 38.88           O
HETATM 3043  O   HOH Z 130      17.603  37.763  31.961  1.00 35.39           O
HETATM 3044  O   HOH Z 131       9.290  41.007  35.589  1.00 51.53           O
HETATM 3045  O   HOH Z 132       9.348  43.374  27.752  1.00 61.17           O
HETATM 3046  O   HOH Z 133      15.089  37.816  32.481  1.00 32.05           O
HETATM 3047  O   HOH Z 134      10.824  48.278  31.295  1.00 52.52           O
HETATM 3048  O   HOH Z 135      15.691  44.668  34.824  1.00 31.47           O
HETATM 3049  O   HOH Z 136      15.962  46.870  38.981  1.00 51.42           O
HETATM 3050  O   HOH Z 137      13.481  51.613  32.894  1.00 45.77           O
HETATM 3051  O   HOH Z 138      14.202  48.658  24.558  1.00 43.59           O
HETATM 3052  O   HOH Z 139      16.193  44.497  37.574  1.00 58.87           O
HETATM 3053  O   HOH Z 140      15.573  46.265  24.419  1.00 39.51           O
HETATM 3054  O   HOH Z 141      18.684  55.873  28.304  1.00 58.28           O
HETATM 3055  O   HOH Z 142      14.817  55.477  27.388  1.00 52.87           O
HETATM 3056  O   HOH Z 143      15.284  50.258  22.000  1.00 32.96           O
HETATM 3057  O   HOH Z 144      23.651  46.151  19.718  1.00 33.04           O
HETATM 3058  O   HOH Z 145      16.751  46.565  21.800  1.00 33.97           O
HETATM 3059  O   HOH Z 146      12.595  29.171  13.536  1.00 39.79           O
HETATM 3060  O   HOH Z 147      10.812  19.188  14.084  1.00 50.88           O
HETATM 3061  O   HOH Z 148      11.495  21.508  13.792  1.00 44.23           O
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HETATM 3062  O   HOH Z 149      14.521  18.471  12.156  1.00 37.16           O
HETATM 3063  O   HOH Z 150      33.566  26.082  16.801  1.00 38.34           O
HETATM 3064  O   HOH Z 151      27.798  27.494  24.390  1.00 25.11           O
HETATM 3065  O   HOH Z 152      30.253  36.176  26.688  1.00 27.79           O
HETATM 3066  O   HOH Z 153      32.762  34.069  19.065  1.00 47.61           O
HETATM 3067  O   HOH Z 154      27.363  30.094  25.612  1.00 23.74           O
HETATM 3068  O   HOH Z 155      16.282  36.168  29.566  1.00 33.13           O
HETATM 3069  O   HOH Z 156      13.289  26.522  28.472  1.00 47.17           O
HETATM 3070  O   HOH Z 157       7.556  30.888  24.716  1.00 44.35           O
HETATM 3071  O   HOH Z 158       7.790  30.392  27.265  1.00 37.71           O
HETATM 3072  O   HOH Z 159       3.910  21.360  21.198  1.00 60.23           O
HETATM 3073  O   HOH Z 160       6.411  23.837  25.422  1.00 40.51           O
HETATM 3074  O   HOH Z 161       3.001  17.561  27.759  1.00 55.61           O
HETATM 3075  O   HOH Z 162       5.352  18.754  24.064  1.00 42.17           O
HETATM 3076  O   HOH Z 163      40.897  21.985  24.633  1.00 54.83           O
HETATM 3077  O   HOH Z 164      42.626  37.977  17.732  1.00 71.69           O
HETATM 3078  O   HOH Z 165      42.463  44.114  19.559  1.00 54.59           O
HETATM 3079  O   HOH Z 166      33.754  36.855  19.984  1.00 36.17           O
HETATM 3080  O   HOH Z 167      33.194  39.271  33.406  1.00 28.26           O
HETATM 3081  O   HOH Z 168      37.482  29.751  37.743  1.00 57.74           O
HETATM 3082  O   HOH Z 169      38.789  34.566  42.752  1.00 40.46           O
HETATM 3083  O   HOH Z 170      32.020  40.390  44.008  1.00 38.46           O
HETATM 3084  O   HOH Z 171      31.865  44.151  45.174  1.00 45.64           O
HETATM 3085  O   HOH Z 172      41.427  43.475  51.164  1.00 50.64           O
HETATM 3086  O   HOH Z 173      38.498  47.344  48.085  1.00 60.19           O
HETATM 3087  O   HOH Z 174      35.239  52.784  45.826  1.00 54.63           O
HETATM 3088  O   HOH Z 175      32.343  51.933  45.286  1.00 58.03           O
HETATM 3089  O   HOH Z 176      39.267  57.239  41.745  1.00 26.45           O
HETATM 3090  O   HOH Z 177      32.755  59.287  44.804  1.00 60.46           O
HETATM 3091  O   HOH Z 178      46.839  53.182  31.757  1.00 31.38           O
HETATM 3092  O   HOH Z 179      37.840  55.111  29.241  1.00 44.20           O
CONECT 1478 2878
CONECT 1498 2878
CONECT 2167 2878
CONECT 2878 2885 2884 1478 2167 1498
CONECT 2879 2880 2883 2884
CONECT 2880 2879 2885 2887
CONECT 2881 2882 2887
CONECT 2882 2881 2886 2888
CONECT 2883 2879
CONECT 2884 2879 2878
CONECT 2885 2880 2878
CONECT 2886 2882
CONECT 2887 2880 2881
CONECT 2888 2882
CONECT 2889 2890 2891 2892 2893
CONECT 2890 2889
CONECT 2891 2889
CONECT 2892 2889
CONECT 2893 2889
CONECT 2894 2895 2896 2897 2898
CONECT 2895 2894
CONECT 2896 2894
CONECT 2897 2894
CONECT 2898 2894
MASTER      455    0    4   15   20    0    7    6 3090    2   24   31
END
```

Structure 2

Below are the coordinates for structure 2 (the 2.25 Å structure of FIH:Fe(II):2OG:CAD):

```
HEADER     TRANSCRIPTION ACTIVATOR/INHIBITOR       12-AUG-02   1H2L
TITLE      FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX WITH HIF-1 ALPHA
TITLE     2 FRAGMENT PEPTIDE
COMPND     MOL_ID: 1;
COMPND    2 MOLECULE: FACTOR INHIBITING HIF1;
COMPND    3 CHAIN: A;
COMPND    4 ENGINEERED: YES;
COMPND    5 MOL_ID: 2;
COMPND    6 MOLECULE: HYPOXIA-INDUCIBLE FACTOR 1 ALPHA;
COMPND    7 SYNONYM: HIF-1 ALPHA, ARNT INTERACTING PROTEIN,
COMPND    8  MEMBER OF PAS PROTEIN 1;
COMPND    9 CHAIN: S;
COMPND   10 FRAGMENT: C-TERMINAL TRANSACTIVATION DOMAIN FRAGMENT
COMPND   11  RESIDUES 786-826
SOURCE     MOL_ID: 1;
SOURCE    2 ORGANISM_SCIENTIFIC: HOMO SAPIENS;
SOURCE    3 ORGANISM_COMMON: HUMAN;
SOURCE    4 EXPRESSION_SYSTEM: ESCHERICHIA COLI;
SOURCE    5 EXPRESSION_SYSTEM_STRAIN: BL21(DE3);
SOURCE    6 EXPRESSION_SYSTEM_PLASMID: PET28A(+);
SOURCE    7 MOL_ID: 2;
SOURCE    8 ORGANISM_SCIENTIFIC: HOMO SAPIENS;
SOURCE    9 ORGANISM_COMMON: HUMAN;
SOURCE   10 EXPRESSION_SYSTEM: ESCHERICHIA COLI;
SOURCE   11 EXPRESSION_SYSTEM_STRAIN: BL21(DE3);
SOURCE   12 EXPRESSION_SYSTEM_PLASMID: PGEX-GP-1
KEYWDS     FIH, HIF, DSBH, OXYGENASE, TRANSCRIPTION, HYPOXIA,
KEYWDS    2 2-OXOGLUTARATE, ASPARAGINYL HYDROXYLASE, HYDROXYLASE
EXPDTA     X-RAY DIFFRACTION
AUTHOR     J.M.ELKINS,K.S.HEWITSON,L.A.MCNEILL,I.SCHLEMMINGER,
AUTHOR    2 J.F.SEIBEL,C.J.SCHOFIELD
REVDAT    1   04-SEP-02 1H2L    0
JRNL        AUTH   J.M.ELKINS,K.S.HEWITSON,L.A.MCNEILL,
JRNL        AUTH 2 I.SCHLEMMINGER,J.F.SEIBEL,C.J.SCHOFIELD
JRNL        TITL   FIH:HIF-FRAGMENT COMPLEXES
JRNL        REF    TO BE PUBLISHED
JRNL        REFN
REMARK   2
REMARK   2 RESOLUTION. 2.25 ANGSTROMS.
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM      : REFMAC 5.0
REMARK   3   AUTHORS      : MURSHUDOV,VAGIN,DODSON
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   2.25
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  38.00
REMARK   3   DATA CUTOFF             (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.98
REMARK   3   NUMBER OF REFLECTIONS             :   25127
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD           : THROUGHOUT
```

```
REMARK   3   FREE R VALUE TEST SET SELECTION   : RANDOM
REMARK   3   R VALUE      (WORKING + TEST SET) : 0.18514
REMARK   3   R VALUE              (WORKING SET) :  0.18253
REMARK   3   FREE R VALUE                       :  0.21738
REMARK   3   FREE R VALUE TEST SET SIZE   (%)   :  7.7
REMARK   3   FREE R VALUE TEST SET COUNT        :  2104
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED                :       20
REMARK   3   BIN RESOLUTION RANGE HIGH                :    2.250
REMARK   3   BIN RESOLUTION RANGE LOW                 :    2.308
REMARK   3   REFLECTION IN BIN     (WORKING SET)      :     1783
REMARK   3   BIN R VALUE           (WORKING SET)      :    0.194
REMARK   3   BIN FREE R VALUE SET COUNT               :      170
REMARK   3   BIN FREE R VALUE                         :    0.228
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   PROTEIN ATOMS                : 2863
REMARK   3   NUCLEIC ACID ATOMS           : 0
REMARK   3   HETEROGEN ATOMS              : 21
REMARK   3   SOLVENT ATOMS                : 139
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT                (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  27.234
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) :    -0.40
REMARK   3    B22 (A**2) :    -0.40
REMARK   3    B33 (A**2) :     0.80
REMARK   3    B12 (A**2) :     0.00
REMARK   3    B13 (A**2) :     0.00
REMARK   3    B23 (A**2) :     0.00
REMARK   3
REMARK   3 ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3  ESU BASED ON R VALUE                                    (A): 0.203
REMARK   3  ESU BASED ON FREE R VALUE                               (A): 0.174
REMARK   3  ESU BASED ON MAXIMUM LIKELIHOOD                         (A): 0.165
REMARK   3  ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2): 6.444
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.956
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.939
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES     COUNT     RMS     WEIGHT
REMARK   3   BOND LENGTHS REFINED            (A):  2961 ; 0.013 ; 0.021
REMARK   3   BOND LENGTHS REFINED            (A):  2961 ; 0.013 ; 0.021
REMARK   3   BOND LENGTHS OTHERS             (A):  2554 ; 0.001 ; 0.020
REMARK   3   BOND ANGLES REFINED       (DEGREES):  4026 ; 1.404 ; 1.949
REMARK   3   BOND ANGLES OTHERS        (DEGREES):  5966 ; 0.727 ; 3.000
REMARK   3   TORSION ANGLES, PERIOD 1  (DEGREES):   350 ; 4.037 ; 3.000
REMARK   3   TORSION ANGLES, PERIOD 3  (DEGREES):   515 ;18.189 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS     (A**3):   413 ; 0.085 ; 0.200
REMARK   3   GENERAL PLANES REFINED          (A):  3315 ; 0.005 ; 0.020
REMARK   3   GENERAL PLANES OTHERS           (A):   602 ; 0.002 ; 0.020
REMARK   3   NON-BONDED CONTACTS REFINED     (A):   693 ; 0.221 ; 0.300
REMARK   3   NON-BONDED CONTACTS OTHERS      (A):  2483 ; 0.204 ; 0.300
REMARK   3   H-BOND (X...Y) REFINED          (A):   208 ; 0.156 ; 0.500
REMARK   3   SYMMETRY VDW REFINED            (A):    16 ; 0.256 ; 0.300
REMARK   3   SYMMETRY VDW OTHERS             (A):    63 ; 0.259 ; 0.300
REMARK   3   SYMMETRY H-BOND REFINED         (A):    10 ; 0.200 ; 0.500
REMARK   3
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REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS. COUNT  RMS   WEIGHT
REMARK   3   MAIN-CHAIN BOND REFINED   (A**2):  1767 ; 0.649 ; 1.500
REMARK   3   MAIN-CHAIN ANGLE REFINED  (A**2):  2847 ; 1.227 ; 2.000
REMARK   3   SIDE-CHAIN BOND REFINED   (A**2):  1194 ; 1.887 ; 3.000
REMARK   3   SIDE-CHAIN ANGLE REFINED  (A**2):  1179 ; 3.111 ; 4.500
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :    1
REMARK   3
REMARK   3   TLS GROUP :     1
REMARK   3    NUMBER OF COMPONENTS GROUP :    2
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A    15        A   451
REMARK   3    RESIDUE RANGE :   S   795        S   822
REMARK   3    ORIGIN FOR THE GROUP (A):  22.2240  27.6230  28.5830
REMARK   3    T TENSOR
REMARK   3      T11:   0.1744 T22:   0.0216
REMARK   3      T33:  -0.0949 T12:  -0.0059
REMARK   3      T13:  -0.0546 T23:   0.0427
REMARK   3    L TENSOR
REMARK   3      L11:   1.1183 L22:   2.4664
REMARK   3      L33:   1.3415 L12:   0.7934
REMARK   3      L13:   0.5409 L23:   1.2249
REMARK   3    S TENSOR
REMARK   3      S11:   0.0358 S12:  -0.1772 S13:  -0.0521
REMARK   3      S21:   0.1763 S22:   0.0025 S23:   0.1089
REMARK   3      S31:   0.2114 S32:  -0.0339 S33:  -0.0383
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED : BABINET MODEL WITH MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.40
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS: HYDROGENS HAVE BEEN ADDED IN THE
REMARK   3   RIDING POSITIONS
REMARK   4
REMARK   4 1H2L COMPLIES WITH FORMAT V. 2.3, 09-JULY-1998
REMARK 100
REMARK 100 THIS ENTRY HAS BEEN PROCESSED BY EBI  ON 12-AUG-2002.
REMARK 100 THE EBI ID CODE IS EBI-11172.
REMARK 200
REMARK 200 EXPERIMENTAL DETAILS
REMARK 200  EXPERIMENT TYPE                : X-RAY DIFFRACTION
REMARK 200  DATE OF DATA COLLECTION        : 15-MAY-2002
REMARK 200  TEMPERATURE           (KELVIN) : 100
REMARK 200  PH                             : 7.5
REMARK 200  NUMBER OF CRYSTALS USED        : 1
REMARK 200
REMARK 200  SYNCHROTRON              (Y/N) : Y
REMARK 200  RADIATION SOURCE               : SRS BEAMLINE PX14.2
REMARK 200  BEAMLINE                       : PX14.2
REMARK 200  X-RAY GENERATOR MODEL          : NULL
REMARK 200  MONOCHROMATIC OR LAUE    (M/L) : M
REMARK 200  WAVELENGTH OR RANGE        (A) : 0.983
REMARK 200  MONOCHROMATOR                  : NULL
REMARK 200  OPTICS                         : NULL
```

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REMARK 200
REMARK 200  DETECTOR TYPE                          : CCD
REMARK 200  DETECTOR MANUFACTURER                  : ADSC
REMARK 200  INTENSITY-INTEGRATION SOFTWARE         : MOSFLM
REMARK 200  DATA SCALING SOFTWARE                  : SCALA
REMARK 200
REMARK 200  NUMBER OF UNIQUE REFLECTIONS           : 27294
REMARK 200  RESOLUTION RANGE HIGH       (A)        : 2.25
REMARK 200  RESOLUTION RANGE LOW        (A)        : 38.63
REMARK 200  REJECTION CRITERIA  (SIGMA(I))         : NONE
REMARK 200
REMARK 200 OVERALL.
REMARK 200  COMPLETENESS FOR RANGE      (%)        : 100.0
REMARK 200  DATA REDUNDANCY                        : 7.0
REMARK 200  R MERGE                     (I)        : 0.058
REMARK 200  R SYM                       (I)        : NULL
REMARK 200  <I/SIGMA(I)> FOR THE DATA SET          : 9.7
REMARK 200
REMARK 200 IN THE HIGHEST RESOLUTION SHELL.
REMARK 200  HIGHEST RESOLUTION SHELL, RANGE HIGH (A) : 2.25
REMARK 200  HIGHEST RESOLUTION SHELL, RANGE LOW  (A) : 2.37
REMARK 200  COMPLETENESS FOR SHELL      (%)        : 100.0
REMARK 200  DATA REDUNDANCY IN SHELL               : 7.2
REMARK 200  R MERGE FOR SHELL           (I)        : 0.307
REMARK 200  R SYM FOR SHELL             (I)        : NULL
REMARK 200  <I/SIGMA(I)> FOR SHELL                 : 2.5
REMARK 200
REMARK 200 DIFFRACTION PROTOCOL: SINGLE WAVELENGTH
REMARK 200 METHOD USED TO DETERMINE THE STRUCTURE: MOLECULAR REPLACEMENT
REMARK 200 SOFTWARE USED: NULL
REMARK 200 STARTING MODEL: NULL
REMARK 200
REMARK 200 REMARK: NULL
REMARK 280
REMARK 280 CRYSTAL
REMARK 280 SOLVENT CONTENT, VS   (%): 63
REMARK 280 MATTHEWS COEFFICIENT, VM (ANGSTROMS**3/DA): 3.4
REMARK 280
REMARK 280 CRYSTALLIZATION CONDITIONS: 1.2M AMMONIUM SULPHATE, 4% PEG400,
REMARK 280  0.1M HEPES PH7.5, ARGON ATMOSPHERE, 11MG/ML PROTEIN WITH
REMARK 280  1MM FE(II), 2.5MM AKG AND 2.5MM PEPTIDE
REMARK 290
REMARK 290 CRYSTALLOGRAPHIC SYMMETRY
REMARK 290 SYMMETRY OPERATORS FOR SPACE GROUP: P 41 21 2
REMARK 290
REMARK 290       SYMOP   SYMMETRY
REMARK 290      NNNMMM   OPERATOR
REMARK 290        1555   X,Y,Z
REMARK 290        2555   -X,-Y,1/2+Z
REMARK 290        3555   1/2-Y,1/2+X,1/4+Z
REMARK 290        4555   1/2+Y,1/2-X,3/4+Z
REMARK 290        5555   1/2-X,1/2+Y,1/4-Z
REMARK 290        6555   1/2+X,1/2-Y,3/4-Z
REMARK 290        7555   Y,X,-Z
REMARK 290        8555   -Y,-X,1/2-Z
REMARK 290
REMARK 290      WHERE NNN -> OPERATOR NUMBER
REMARK 290            MMM -> TRANSLATION VECTOR
REMARK 290
REMARK 290 CRYSTALLOGRAPHIC SYMMETRY TRANSFORMATIONS
REMARK 290 THE FOLLOWING TRANSFORMATIONS OPERATE ON THE ATOM/HETATM
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REMARK 290 RECORDS IN THIS ENTRY TO PRODUCE CRYSTALLOGRAPHICALLY
REMARK 290 RELATED MOLECULES.
REMARK 290   SMTRY1   1  1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY2   1  0.000000  1.000000  0.000000        0.00000
REMARK 290   SMTRY3   1  0.000000  0.000000  1.000000        0.00000
REMARK 290   SMTRY1   2 -1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY2   2  0.000000 -1.000000  0.000000        0.00000
REMARK 290   SMTRY3   2  0.000000  0.000000  1.000000       73.95700
REMARK 290   SMTRY1   3  0.000000 -1.000000  0.000000       43.13200
REMARK 290   SMTRY2   3  1.000000  0.000000  0.000000       43.13200
REMARK 290   SMTRY3   3  0.000000  0.000000  1.000000       36.97850
REMARK 290   SMTRY1   4  0.000000  1.000000  0.000000       43.13200
REMARK 290   SMTRY2   4 -1.000000  0.000000  0.000000       43.13200
REMARK 290   SMTRY3   4  0.000000  0.000000  1.000000      110.93550
REMARK 290   SMTRY1   5 -1.000000  0.000000  0.000000       43.13200
REMARK 290   SMTRY2   5  0.000000  1.000000  0.000000       43.13200
REMARK 290   SMTRY3   5  0.000000  0.000000 -1.000000       36.97850
REMARK 290   SMTRY1   6  1.000000  0.000000  0.000000       43.13200
REMARK 290   SMTRY2   6  0.000000 -1.000000  0.000000       43.13200
REMARK 290   SMTRY3   6  0.000000  0.000000 -1.000000      110.93550
REMARK 290   SMTRY1   7  0.000000  1.000000  0.000000        0.00000
REMARK 290   SMTRY2   7  1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY3   7  0.000000  0.000000 -1.000000        0.00000
REMARK 290   SMTRY1   8  0.000000 -1.000000  0.000000        0.00000
REMARK 290   SMTRY2   8 -1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY3   8  0.000000  0.000000 -1.000000       73.95700
REMARK 290
REMARK 290 REMARK: NULL
REMARK 300
REMARK 300 BIOMOLECULE: 1
REMARK 300 THIS ENTRY CONTAINS THE CRYSTALLOGRAPHIC ASYMMETRIC UNIT
REMARK 300 WHICH CONSISTS OF   2 CHAIN(S). SEE REMARK 350 FOR
REMARK 300 INFORMATION ON GENERATING THE BIOLOGICAL MOLECULE(S).
REMARK 300
REMARK 300 QUATERNARY STRUCTURE FOR THIS ENTRY: TETRAMERIC
REMARK 300
REMARK 300 THE PROTEIN IS A HOMODIMER FORMED BY CHAIN A.
REMARK 300 A HETERODIMERIC ASSOCIATION OF CHAIN A WITH CHAIN S
REMARK 300 PRODUCES A TETRAMER.
REMARK 300
REMARK 300 THE BURIED SURFACE AREA SHOWN BELOW IS AN AVERAGE
REMARK 300 CALCULATED FOR THE HETEROTETRAMER AND DOES NOT
REMARK 300 CORRESPOND TO THE BURIED SURFACE AREA FOR THE
REMARK 300 HOMODIMER OF CHAIN A
REMARK 300
REMARK 300 THE HETERO-ASSEMBLY DESCRIBED BY REMARK 350 APPEARS
REMARK 300 TO BE A CASE OF STRONG CRYSTAL PACKING WITH
REMARK 300 THE MEAN DIFFERENCE IN ACCESSIBLE SURFACE AREA PER
REMARK 300 CHAIN BETWEEN THE ISOLATED CHAIN AND THAT FOR
REMARK 300 THE CHAIN IN THE COMPLEX IS     2141.3 ANGSTROM**2
REMARK 350
REMARK 350 GENERATING THE BIOMOLECULE
REMARK 350 COORDINATES FOR A COMPLETE MULTIMER REPRESENTING THE KNOWN
REMARK 350 BIOLOGICALLY SIGNIFICANT OLIGOMERIZATION STATE OF THE
REMARK 350 MOLECULE CAN BE GENERATED BY APPLYING BIOMT TRANSFORMATIONS
REMARK 350 GIVEN BELOW.  BOTH NON-CRYSTALLOGRAPHIC AND
REMARK 350 CRYSTALLOGRAPHIC OPERATIONS ARE GIVEN.
REMARK 350
REMARK 350 BIOMOLECULE:  1
REMARK 350 APPLY THE FOLLOWING TO CHAINS: A, S
REMARK 350   BIOMT1   1  1.000000  0.000000  0.000000        0.00000
```

```
REMARK 350   BIOMT2   1  0.000000  1.000000  0.000000        0.00000
REMARK 350   BIOMT3   1  0.000000  0.000000  1.000000        0.00000
REMARK 350   BIOMT1   2  0.000000 -1.000000  0.000000       86.26400
REMARK 350   BIOMT2   2 -1.000000  0.000000  0.000000       86.26400
REMARK 350   BIOMT3   2  0.000000  0.000000 -1.000000       73.95700
REMARK 465
REMARK 465 MISSING RESIDUES
REMARK 465 THE FOLLOWING RESIDUES WERE NOT LOCATED IN THE
REMARK 465 EXPERIMENT. (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 465 IDENTIFIER; SSSEQ=SEQUENCE NUMBER; I=INSERTION CODE.)
REMARK 465
REMARK 465   M RES C SSSEQI
REMARK 465     MET A     1
REMARK 465     ALA A     2
REMARK 465     ALA A     3
REMARK 465     THR A     4
REMARK 465     ALA A     5
REMARK 465     ALA A     6
REMARK 465     GLU A     7
REMARK 465     ALA A     8
REMARK 465     VAL A     9
REMARK 465     ALA A    10
REMARK 465     SER A    11
REMARK 465     GLY A    12
REMARK 465     SER A    13
REMARK 465     GLY A    14
REMARK 465     LYS A   304
REMARK 465     ARG A   305
REMARK 465     ILE A   306
REMARK 465     SER S   786
REMARK 465     MET S   787
REMARK 465     ASP S   788
REMARK 465     GLU S   789
REMARK 465     SER S   790
REMARK 465     GLY S   791
REMARK 465     LEU S   792
REMARK 465     PRO S   793
REMARK 465     GLN S   794
REMARK 465     GLN S   807
REMARK 465     GLY S   808
REMARK 465     SER S   809
REMARK 465     ARG S   810
REMARK 465     ASN S   811
REMARK 465     LEU S   812
REMARK 465     ASP S   823
REMARK 465     GLN S   824
REMARK 465     VAL S   825
REMARK 465     ASN S   826
REMARK 470
REMARK 470 MISSING ATOM
REMARK 470 THE FOLLOWING RESIDUES HAVE MISSING ATOMS (M=MODEL NUMBER;
REMARK 470 RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE NUMBER;
REMARK 470 I=INSERTION CODE):
REMARK 470   M RES CSSEQI  ATOMS
REMARK 470     GLU A  15    CG   CD   OE1  OE2
REMARK 470     GLU A  29    CG   CD   OE1  OE2
REMARK 470     ASN A  87    CG   OD1  ND2
REMARK 470     LYS A 106    CD   CE   NZ
REMARK 470     ARG A 117    CG   CD   NE   CZ   NH1  NH2
REMARK 470     GLN A 133    CG   CD   OE1  NE2
REMARK 470     GLN A 136    CG   CD   OE1  NE2
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REMARK 470     GLN A 137    CG    CD    OE1   NE2
REMARK 470     ARG A 156    CG    CD    NE    CZ    NH1   NH2
REMARK 470     LYS A 157    CD    CE    NZ
REMARK 470     LYS A 311    CG    CD    CE    NZ
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND LENGTHS
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD AND BY MORE THAN 0.150 ANGSTROMS (M=MODEL
REMARK 500 NUMBER; RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE
REMARK 500 NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,A3,1X,A1,I4,A1,1X,2(A4,A1,3X),12X,F5.3)
REMARK 500
REMARK 500 EXPECTED VALUESS: ENGH AND HUBER, 1991
REMARK 500
REMARK 500  M RES CSSEQI ATM1   RES CSSEQI ATM2   DEVIATION
REMARK 500    MET A 343  SD     MET A 343  CE      -0.243
REMARK 500
REMARK 500 REMARK: NULL
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: CLOSE CONTACTS IN SAME ASYMMETRIC UNIT
REMARK 500
REMARK 500 THE FOLLOWING ATOMS ARE IN CLOSE CONTACT.
REMARK 500
REMARK 500  ATM1   RES C  SSEQI   ATM2   RES C  SSEQI            DISTANCE
REMARK 500
REMARK 500   O     ALA A   300     OH    TYR S   798                2.18
REMARK 525
REMARK 525 SOLVENT
REMARK 525
REMARK 525 THE SOLVENT MOLECULES ARE GIVEN CHAIN IDENTIFIERS TO
REMARK 525 INDICATE THE PROTEIN CHAIN TO WHICH THEY ARE MOST CLOSELY
REMARK 525 ASSOCIATED WITH:
REMARK 525   PROTEIN CHAIN  SOLVENT CHAIN
REMARK 525     A              Z
REMARK 525     S              H
REMARK 600
REMARK 600 HETEROGEN
REMARK 600
REMARK 600 FOR METAL ATOM FE   FE2 A1350  THE COORDINATION ANGLES ARE:
REMARK 600  1 HIS   199A  NE2
REMARK 600  2 ASP   201A  OD2       103.4
REMARK 600  3 HIS   279A  NE2        83.1  86.0
REMARK 600  4 AKG  1351A  O1        168.9  87.6  98.2
REMARK 600  5 AKG  1351A  O5         87.0 169.4  97.2  81.9
REMARK 600                            1     2     3     4
REMARK 700
REMARK 700 SHEET
REMARK 700 THE SHEET STRUCTURE OF THIS MOLECULE IS BIFURCATED. IN
REMARK 700 ORDER TO REPRESENT THIS FEATURE IN THE SHEET RECORDS BELOW,
REMARK 700 TWO SHEETS ARE DEFINED.
REMARK 800
REMARK 800 SITE
REMARK 800 SITE_IDENTIFIER: FE1
REMARK 800 SITE_DESCRIPTION: FE BINDING SITE FOR CHAIN A
REMARK 800
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REMARK 800 SITE_IDENTIFIER: AKG
REMARK 800 SITE_DESCRIPTION: AKG BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: SO1
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: SO2
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 900
REMARK 900 RELATED ENTRIES
REMARK 900 RELATED ID: 1D7G   RELATED DB: PDB
REMARK 900  A MODEL FOR THE COMPLEX BETWEEN THE
REMARK 900  HYPOXIA-INDUCIBLE FACTOR-1 (HIF-1) AND ITS
REMARK 900   CONSENSUS DEOXYRIBONUCLEIC ACID SEQUENCE
REMARK 900 RELATED ID: 1H2K   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1H2M   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1H2N   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1L8C   RELATED DB: PDB
REMARK 900  STRUCTURAL BASIS FOR HIF-1ALPHA/CBP
REMARK 900  RECOGNITION IN THECELLULAR HYPOXIC RESPONSE
REMARK 900 RELATED ID: 1LM8   RELATED DB: PDB
REMARK 900  STRUCTURE OF A HIF-1A-PVHL-ELONGINB-
REMARK 900  ELONGINC COMPLEX
REMARK 900 RELATED ID: 1LQB   RELATED DB: PDB
REMARK 900  CRYSTAL STRUCTURE OF A HYDROXYLATED HIF-1
REMARK 900  ALPHA PEPTIDEBOUND TO THE PVHL/ELONGIN-C/
REMARK 900  ELONGIN-B COMPLEX
DBREF  1H2L A    1   349  SWS    Q969Q7   Q969Q7            1    349
DBREF  1H2L S  786   826  SWS    Q16665   HIFA_HUMAN      786    826
SEQRES   1 A  349  MET ALA ALA THR ALA ALA GLU ALA VAL ALA SER GLY SER
SEQRES   2 A  349  GLY GLU PRO ARG GLU GLU ALA GLY ALA LEU GLY PRO ALA
SEQRES   3 A  349  TRP ASP GLU SER GLN LEU ARG SER TYR SER PHE PRO THR
SEQRES   4 A  349  ARG PRO ILE PRO ARG LEU SER GLN SER ASP PRO ARG ALA
SEQRES   5 A  349  GLU GLU LEU ILE GLU ASN GLU GLU PRO VAL VAL LEU THR
SEQRES   6 A  349  ASP THR ASN LEU VAL TYR PRO ALA LEU LYS TRP ASP LEU
SEQRES   7 A  349  GLU TYR LEU GLN GLU ASN ILE GLY ASN GLY ASP PHE SER
SEQRES   8 A  349  VAL TYR SER ALA SER THR HIS LYS PHE LEU TYR TYR ASP
SEQRES   9 A  349  GLU LYS LYS MET ALA ASN PHE GLN ASN PHE LYS PRO ARG
SEQRES  10 A  349  SER ASN ARG GLU GLU MET LYS PHE HIS GLU PHE VAL GLU
SEQRES  11 A  349  LYS LEU GLN ASP ILE GLN GLN ARG GLY GLY GLU GLU ARG
SEQRES  12 A  349  LEU TYR LEU GLN GLN THR LEU ASN ASP THR VAL GLY ARG
SEQRES  13 A  349  LYS ILE VAL MET ASP PHE LEU GLY PHE ASN TRP ASN TRP
SEQRES  14 A  349  ILE ASN LYS GLN GLN GLY LYS ARG GLY TRP GLY GLN LEU
SEQRES  15 A  349  THR SER ASN LEU LEU LEU ILE GLY MET GLU GLY ASN VAL
SEQRES  16 A  349  THR PRO ALA HIS TYR ASP GLU GLN GLN ASN PHE PHE ALA
SEQRES  17 A  349  GLN ILE LYS GLY TYR LYS ARG CYS ILE LEU PHE PRO PRO
SEQRES  18 A  349  ASP GLN PHE GLU CYS LEU TYR PRO TYR PRO VAL HIS HIS
SEQRES  19 A  349  PRO CYS ASP ARG GLN SER GLN VAL ASP PHE ASP ASN PRO
SEQRES  20 A  349  ASP TYR GLU ARG PHE PRO ASN PHE GLN ASN VAL VAL GLY
SEQRES  21 A  349  TYR GLU THR VAL VAL GLY PRO GLY ASP VAL LEU TYR ILE
SEQRES  22 A  349  PRO MET TYR TRP TRP HIS HIS ILE GLU SER LEU LEU ASN
SEQRES  23 A  349  GLY GLY ILE THR ILE THR VAL ASN PHE TRP TYR LYS GLY
SEQRES  24 A  349  ALA PRO THR PRO LYS ARG ILE GLU TYR PRO LEU LYS ALA
SEQRES  25 A  349  HIS GLN LYS VAL ALA ILE MET ARG ASN ILE GLU LYS MET
SEQRES  26 A  349  LEU GLY GLU ALA LEU GLY ASN PRO GLN GLU VAL GLY PRO
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SEQRES   27 A  349  LEU LEU ASN THR MET ILE LYS GLY ARG TYR ASN
SEQRES    1 S   41  SER MET ASP GLU SER GLY LEU PRO GLN LEU THR SER TYR
SEQRES    2 S   41  ASP CYS GLU VAL ASN ALA PRO ILE GLN GLY SER ARG ASN
SEQRES    3 S   41  LEU LEU GLN GLY GLU GLU LEU LEU ARG ALA LEU ASP GLN
SEQRES    4 S   41  VAL ASN
HET     FE2  A1350       1
HET     AKG  A1351      10
HET     SO4  A1352       5
HET     SO4  A1353       5
HETNAM     FE2 FE (II) ION
HETNAM     AKG 2-OXYGLUTARIC ACID
HETNAM     SO4 SULFATE ION
FORMUL   3  FE2    FE1 2+
FORMUL   4  AKG    C5 H6 O5
FORMUL   5  SO4    2(O4 S1 2-)
FORMUL   6  HOH   *139(H2 O1)
HELIX    1   1 ASP A   28  LEU A   32  5                                    5
HELIX    2   2 ASP A   49  ASN A   58  1                                   10
HELIX    3   3 VAL A   70  TRP A   76  5                                    7
HELIX    4   4 ASP A   77  ILE A   85  1                                    9
HELIX    5   5 ASP A  104  PHE A  111  5                                    8
HELIX    6   6 LYS A  124  ARG A  138  1                                   15
HELIX    7   7 GLY A  155  GLY A  164  1                                   10
HELIX    8   8 ASN A  166  GLY A  178  1                                   13
HELIX    9   9 PRO A  220  ASP A  222  5                                    3
HELIX   10  10 GLN A  223  TYR A  228  1                                    6
HELIX   11  11 PHE A  252  VAL A  258  5                                    7
HELIX   12  12 LYS A  311  GLY A  331  1                                   21
HELIX   13  13 ASN A  332  GLN A  334  5                                    3
HELIX   14  14 GLU A  335  LYS A  345  1                                   11
HELIX   15  15 GLN S  814  LEU S  822  1                                    9
SHEET    1  AA 5 THR A  39   PRO A  41   0
SHEET    2  AA 5 GLY A 260   VAL A 265   1  O  GLY A 260   N  ARG A  40
SHEET    3  AA 5 LYS A 214   PHE A 219  -1  O  LYS A 214   N  VAL A 265
SHEET    4  AA 5 TRP A 278   SER A 283  -1  O  TRP A 278   N  PHE A 219
SHEET    5  AA 5 VAL A 195   HIS A 199  -1  O  THR A 196   N  ILE A 281
SHEET    1  AB 6 ARG A  44   LEU A  45   0
SHEET    2  AB 6 VAL A  62   LEU A  64   1  O  VAL A  63   N  LEU A  45
SHEET    3  AB 6 VAL A 270   ILE A 273  -1  O  VAL A 270   N  LEU A  64
SHEET    4  AB 6 GLN A 204   LYS A 211  -1  O  ASN A 205   N  ILE A 273
SHEET    5  AB 6 THR A 290   TYR A 297  -1  O  ILE A 291   N  ILE A 210
SHEET    6  AB 6 LEU A 182   SER A 184  -1  N  THR A 183   O  TRP A 296
SHEET    1  AC 9 ARG A  44   LEU A  45   0
SHEET    2  AC 9 VAL A  62   LEU A  64   1  O  VAL A  63   N  LEU A  45
SHEET    3  AC 9 VAL A 270   ILE A 273  -1  O  VAL A 270   N  LEU A  64
SHEET    4  AC 9 GLN A 204   LYS A 211  -1  O  ASN A 205   N  ILE A 273
SHEET    5  AC 9 THR A 290   TYR A 297  -1  O  ILE A 291   N  ILE A 210
SHEET    6  AC 9 LEU A 186   GLY A 190  -1  O  LEU A 186   N  ASN A 294
SHEET    7  AC 9 ARG A 143   THR A 149  -1  O  LEU A 146   N  ILE A 189
SHEET    8  AC 9 PHE A  90   ALA A  95  -1  O  SER A  91   N  GLN A 147
SHEET    9  AC 9 SER A 118   MET A 123  -1  O  ASN A 119   N  SER A  94
LINK         FE   FE2 A1350                 NE2 HIS A 199     1555   1555
LINK         FE   FE2 A1350                 OD2 ASP A 201     1555   1555
LINK         FE   FE2 A1350                 NE2 HIS A 279     1555   1555
LINK         FE   FE2 A1350                 O1  AKG A1351     1555   1555
LINK         FE   FE2 A1350                 O5  AKG A1351     1555   1555
CISPEP   1 TYR A  308    PRO A  309          0         1.27
SITE     1 FE1  3 HIS A 199  ASP A 201  HIS A 279
SITE     1 AKG 12 TYR A 145  THR A 196  HIS A 199  ASP A 201
SITE     2 AKG 12 ASN A 205  PHE A 207  LYS A 214  HIS A 279
SITE     3 AKG 12 ILE A 281  ASN A 294  TRP A 296  HOH Z  65
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SITE     1 SO1  4 ARG A 138  GLY A 140  GLU A 141  GLU A 142
SITE     1 SO2  5 ARG A 143  GLU A 192  GLY A 193  LEU A 285
SITE     2 SO2  5 ASN A 286
CRYST1   86.264   86.264  147.914  90.00  90.00  90.00 P 41 21 2     8
ORIGX1      1.000000  0.000000  0.000000        0.00000
ORIGX2      0.000000  1.000000  0.000000        0.00000
ORIGX3      0.000000  0.000000  1.000000        0.00000
SCALE1      0.011592  0.000000  0.000000        0.00000
SCALE2      0.000000  0.011592  0.000000        0.00000
SCALE3      0.000000  0.000000  0.006761        0.00000
ATOM      1  N   GLU A  15       8.505  32.866   9.893  1.00 61.72           N
ATOM      2  CA  GLU A  15       7.173  32.223   9.682  1.00 61.95           C
ATOM      3  C   GLU A  15       7.251  30.749  10.070  1.00 61.54           C
ATOM      4  O   GLU A  15       8.109  30.026   9.581  1.00 61.66           O
ATOM      5  CB  GLU A  15       6.724  32.375   8.234  1.00 62.08           C
ATOM      6  N   PRO A  16       6.353  30.305  10.941  1.00 61.24           N
ATOM      7  CA  PRO A  16       6.386  28.928  11.455  1.00 60.97           C
ATOM      8  C   PRO A  16       6.342  27.853  10.368  1.00 60.27           C
ATOM      9  O   PRO A  16       5.494  27.879   9.479  1.00 60.01           O
ATOM     10  CB  PRO A  16       5.134  28.849  12.333  1.00 61.10           C
ATOM     11  CG  PRO A  16       4.790  30.262  12.653  1.00 61.53           C
ATOM     12  CD  PRO A  16       5.228  31.079  11.488  1.00 61.35           C
ATOM     13  N   ARG A  17       7.256  26.900  10.464  1.00 59.45           N
ATOM     14  CA  ARG A  17       7.348  25.820   9.494  1.00 59.05           C
ATOM     15  C   ARG A  17       6.083  24.971   9.478  1.00 57.86           C
ATOM     16  O   ARG A  17       5.312  24.963  10.437  1.00 57.86           O
ATOM     17  CB  ARG A  17       8.541  24.913   9.827  1.00 59.53           C
ATOM     18  CG  ARG A  17       9.906  25.621   9.859  1.00 60.69           C
ATOM     19  CD  ARG A  17      11.080  24.696  10.194  1.00 62.32           C
ATOM     20  NE  ARG A  17      11.040  24.185  11.567  1.00 63.73           N
ATOM     21  CZ  ARG A  17      11.464  24.852  12.649  1.00 65.28           C
ATOM     22  NH1 ARG A  17      11.962  26.085  12.544  1.00 65.01           N
ATOM     23  NH2 ARG A  17      11.385  24.282  13.848  1.00 65.09           N
ATOM     24  N   GLU A  18       5.878  24.254   8.382  1.00 56.26           N
ATOM     25  CA  GLU A  18       4.749  23.351   8.273  1.00 55.12           C
ATOM     26  C   GLU A  18       5.222  21.931   8.587  1.00 53.54           C
ATOM     27  O   GLU A  18       6.214  21.468   8.031  1.00 52.86           O
ATOM     28  CB  GLU A  18       4.150  23.406   6.867  1.00 55.33           C
ATOM     29  CG  GLU A  18       3.482  24.731   6.519  1.00 56.39           C
ATOM     30  CD  GLU A  18       2.100  24.904   7.137  1.00 57.19           C
ATOM     31  OE1 GLU A  18       1.559  23.935   7.718  1.00 56.35           O
ATOM     32  OE2 GLU A  18       1.548  26.023   7.028  1.00 58.12           O
ATOM     33  N   GLU A  19       4.526  21.260   9.501  1.00 51.73           N
ATOM     34  CA  GLU A  19       4.823  19.867   9.816  1.00 50.56           C
ATOM     35  C   GLU A  19       4.409  18.944   8.663  1.00 48.36           C
ATOM     36  O   GLU A  19       3.312  19.066   8.102  1.00 47.54           O
ATOM     37  CB  GLU A  19       4.115  19.422  11.100  1.00 51.05           C
ATOM     38  CG  GLU A  19       4.577  20.139  12.360  1.00 53.53           C
ATOM     39  CD  GLU A  19       4.363  19.323  13.638  1.00 57.67           C
ATOM     40  OE1 GLU A  19       3.906  18.146  13.561  1.00 59.24           O
ATOM     41  OE2 GLU A  19       4.663  19.864  14.735  1.00 59.50           O
ATOM     42  N   ALA A  20       5.314  18.035   8.320  1.00 46.04           N
ATOM     43  CA  ALA A  20       5.100  17.030   7.283  1.00 44.66           C
ATOM     44  C   ALA A  20       3.741  16.365   7.394  1.00 42.92           C
ATOM     45  O   ALA A  20       3.230  16.154   8.491  1.00 42.14           O
ATOM     46  CB  ALA A  20       6.182  15.965   7.360  1.00 44.46           C
ATOM     47  N   GLY A  21       3.173  16.025   6.247  1.00 41.16           N
ATOM     48  CA  GLY A  21       1.897  15.341   6.215  1.00 40.22           C
ATOM     49  C   GLY A  21       0.757  16.300   6.480  1.00 39.27           C
ATOM     50  O   GLY A  21      -0.309  15.895   6.908  1.00 38.03           O
ATOM     51  N   ALA A  22       1.005  17.584   6.240  1.00 38.86           N
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ATOM     52  CA  ALA A  22      -0.018  18.611   6.371  1.00 38.79           C
ATOM     53  C   ALA A  22      -0.618  18.613   7.758  1.00 38.64           C
ATOM     54  O   ALA A  22      -1.820  18.759   7.924  1.00 38.07           O
ATOM     55  CB  ALA A  22      -1.102  18.409   5.324  1.00 38.68           C
ATOM     56  N   LEU A  23       0.231  18.451   8.760  1.00 39.07           N
ATOM     57  CA  LEU A  23      -0.233  18.473  10.135  1.00 39.72           C
ATOM     58  C   LEU A  23      -0.290  19.886  10.692  1.00 39.39           C
ATOM     59  O   LEU A  23      -0.464  20.075  11.880  1.00 39.41           O
ATOM     60  CB  LEU A  23       0.642  17.574  11.003  1.00 40.11           C
ATOM     61  CG  LEU A  23       0.528  16.118  10.558  1.00 41.82           C
ATOM     62  CD1 LEU A  23       1.414  15.185  11.384  1.00 43.18           C
ATOM     63  CD2 LEU A  23      -0.916  15.673  10.633  1.00 43.43           C
ATOM     64  N   GLY A  24      -0.156  20.879   9.823  1.00 39.21           N
ATOM     65  CA  GLY A  24      -0.290  22.258  10.237  1.00 39.16           C
ATOM     66  C   GLY A  24       0.964  22.862  10.820  1.00 39.21           C
ATOM     67  O   GLY A  24       2.011  22.219  10.916  1.00 39.16           O
ATOM     68  N   PRO A  25       0.854  24.118  11.223  1.00 39.08           N
ATOM     69  CA  PRO A  25       1.997  24.830  11.775  1.00 38.84           C
ATOM     70  C   PRO A  25       2.410  24.197  13.086  1.00 38.68           C
ATOM     71  O   PRO A  25       1.572  23.842  13.914  1.00 38.08           O
ATOM     72  CB  PRO A  25       1.477  26.259  12.001  1.00 38.76           C
ATOM     73  CG  PRO A  25      -0.004  26.197  11.895  1.00 39.12           C
ATOM     74  CD  PRO A  25      -0.375  24.930  11.210  1.00 39.17           C
ATOM     75  N   ALA A  26       3.713  24.037  13.246  1.00 38.92           N
ATOM     76  CA  ALA A  26       4.269  23.489  14.467  1.00 39.38           C
ATOM     77  C   ALA A  26       3.924  24.381  15.676  1.00 38.73           C
ATOM     78  O   ALA A  26       3.677  23.882  16.772  1.00 39.39           O
ATOM     79  CB  ALA A  26       5.762  23.347  14.319  1.00 39.60           C
ATOM     80  N   TRP A  27       3.871  25.687  15.468  1.00 37.43           N
ATOM     81  CA  TRP A  27       3.516  26.602  16.543  1.00 36.82           C
ATOM     82  C   TRP A  27       3.034  27.919  15.941  1.00 36.10           C
ATOM     83  O   TRP A  27       3.013  28.074  14.731  1.00 35.54           O
ATOM     84  CB  TRP A  27       4.746  26.835  17.424  1.00 36.91           C
ATOM     85  CG  TRP A  27       5.949  27.019  16.596  1.00 36.01           C
ATOM     86  CD1 TRP A  27       6.770  26.041  16.089  1.00 36.29           C
ATOM     87  CD2 TRP A  27       6.450  28.249  16.107  1.00 34.41           C
ATOM     88  NE1 TRP A  27       7.761  26.610  15.324  1.00 36.06           N
ATOM     89  CE2 TRP A  27       7.592  27.966  15.332  1.00 34.97           C
ATOM     90  CE3 TRP A  27       6.066  29.568  16.263  1.00 34.24           C
ATOM     91  CZ2 TRP A  27       8.332  28.947  14.720  1.00 36.39           C
ATOM     92  CZ3 TRP A  27       6.808  30.539  15.664  1.00 36.24           C
ATOM     93  CH2 TRP A  27       7.927  30.225  14.890  1.00 36.25           C
ATOM     94  N   ASP A  28       2.620  28.860  16.775  1.00 35.59           N
ATOM     95  CA  ASP A  28       2.253  30.168  16.267  1.00 35.15           C
ATOM     96  C   ASP A  28       2.816  31.224  17.160  1.00 33.93           C
ATOM     97  O   ASP A  28       3.311  30.948  18.250  1.00 33.56           O
ATOM     98  CB  ASP A  28       0.739  30.338  16.131  1.00 36.08           C
ATOM     99  CG  ASP A  28       0.038  30.310  17.449  1.00 38.11           C
ATOM    100  OD1 ASP A  28      -0.096  31.392  18.076  1.00 41.06           O
ATOM    101  OD2 ASP A  28      -0.392  29.240  17.938  1.00 41.04           O
ATOM    102  N   GLU A  29       2.737  32.448  16.665  1.00 32.84           N
ATOM    103  CA  GLU A  29       3.288  33.615  17.330  1.00 31.31           C
ATOM    104  C   GLU A  29       2.792  33.767  18.756  1.00 29.80           C
ATOM    105  O   GLU A  29       3.547  34.124  19.639  1.00 29.03           O
ATOM    106  CB  GLU A  29       2.938  34.841  16.537  1.00 31.81           C
ATOM    107  N   SER A  30       1.524  33.478  18.989  1.00 28.55           N
ATOM    108  CA  SER A  30       0.957  33.680  20.314  1.00 28.00           C
ATOM    109  C   SER A  30       1.613  32.830  21.391  1.00 27.25           C
ATOM    110  O   SER A  30       1.360  33.035  22.563  1.00 26.88           O
ATOM    111  CB  SER A  30      -0.546  33.404  20.302  1.00 27.71           C
ATOM    112  OG  SER A  30      -0.800  32.015  20.328  1.00 28.97           O
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ATOM    113  N   GLN A  31       2.434  31.864  20.994  1.00 26.92           N
ATOM    114  CA  GLN A  31       3.089  30.988  21.950  1.00 26.85           C
ATOM    115  C   GLN A  31       4.447  31.558  22.362  1.00 26.63           C
ATOM    116  O   GLN A  31       5.115  30.995  23.220  1.00 25.89           O
ATOM    117  CB  GLN A  31       3.270  29.576  21.375  1.00 26.90           C
ATOM    118  CG  GLN A  31       1.975  28.816  21.097  1.00 27.50           C
ATOM    119  CD  GLN A  31       2.227  27.446  20.480  1.00 27.30           C
ATOM    120  OE1 GLN A  31       2.332  27.330  19.262  1.00 28.39           O
ATOM    121  NE2 GLN A  31       2.354  26.419  21.319  1.00 23.43           N
ATOM    122  N   LEU A  32       4.835  32.682  21.757  1.00 26.56           N
ATOM    123  CA  LEU A  32       6.094  33.351  22.078  1.00 26.88           C
ATOM    124  C   LEU A  32       5.854  34.500  23.047  1.00 26.64           C
ATOM    125  O   LEU A  32       4.875  35.214  22.913  1.00 26.22           O
ATOM    126  CB  LEU A  32       6.743  33.906  20.807  1.00 26.71           C
ATOM    127  CG  LEU A  32       7.054  32.866  19.724  1.00 29.00           C
ATOM    128  CD1 LEU A  32       7.704  33.537  18.535  1.00 31.11           C
ATOM    129  CD2 LEU A  32       7.942  31.773  20.245  1.00 28.07           C
ATOM    130  N   ARG A  33       6.737  34.671  24.026  1.00 26.49           N
ATOM    131  CA  ARG A  33       6.622  35.799  24.957  1.00 26.48           C
ATOM    132  C   ARG A  33       7.070  37.071  24.252  1.00 26.68           C
ATOM    133  O   ARG A  33       7.810  37.025  23.280  1.00 26.97           O
ATOM    134  CB  ARG A  33       7.454  35.554  26.224  1.00 26.44           C
ATOM    135  CG  ARG A  33       7.071  34.261  26.976  1.00 25.53           C
ATOM    136  CD  ARG A  33       7.869  34.029  28.245  1.00 25.76           C
ATOM    137  NE  ARG A  33       7.329  32.926  29.021  1.00 25.87           N
ATOM    138  CZ  ARG A  33       6.418  33.033  29.969  1.00 25.35           C
ATOM    139  NH1 ARG A  33       5.916  34.198  30.309  1.00 24.02           N
ATOM    140  NH2 ARG A  33       6.003  31.941  30.587  1.00 28.18           N
ATOM    141  N   SER A  34       6.643  38.214  24.751  1.00 26.73           N
ATOM    142  CA  SER A  34       6.939  39.469  24.090  1.00 27.21           C
ATOM    143  C   SER A  34       8.021  40.251  24.840  1.00 26.40           C
ATOM    144  O   SER A  34       7.957  40.391  26.046  1.00 25.65           O
ATOM    145  CB  SER A  34       5.657  40.278  24.028  1.00 27.92           C
ATOM    146  OG  SER A  34       5.402  40.780  25.323  1.00 31.78           O
ATOM    147  N   TYR A  35       9.009  40.750  24.110  1.00 26.09           N
ATOM    148  CA  TYR A  35      10.169  41.390  24.711  1.00 26.44           C
ATOM    149  C   TYR A  35      10.412  42.731  24.046  1.00 27.00           C
ATOM    150  O   TYR A  35       9.815  43.009  23.028  1.00 27.14           O
ATOM    151  CB  TYR A  35      11.386  40.479  24.577  1.00 25.83           C
ATOM    152  CG  TYR A  35      11.217  39.198  25.357  1.00 25.49           C
ATOM    153  CD1 TYR A  35      11.041  39.226  26.739  1.00 23.65           C
ATOM    154  CD2 TYR A  35      11.219  37.963  24.723  1.00 23.87           C
ATOM    155  CE1 TYR A  35      10.869  38.063  27.459  1.00 23.41           C
ATOM    156  CE2 TYR A  35      11.061  36.795  25.445  1.00 24.37           C
ATOM    157  CZ  TYR A  35      10.881  36.847  26.809  1.00 22.92           C
ATOM    158  OH  TYR A  35      10.698  35.686  27.522  1.00 23.94           O
ATOM    159  N   SER A  36      11.326  43.531  24.596  1.00 27.45           N
ATOM    160  CA  SER A  36      11.555  44.905  24.127  1.00 27.58           C
ATOM    161  C   SER A  36      12.553  45.092  22.987  1.00 27.13           C
ATOM    162  O   SER A  36      12.764  46.211  22.533  1.00 27.71           O
ATOM    163  CB  SER A  36      12.109  45.724  25.286  1.00 27.62           C
ATOM    164  OG  SER A  36      13.365  45.201  25.697  1.00 27.53           O
ATOM    165  N   PHE A  37      13.181  44.025  22.543  1.00 25.62           N
ATOM    166  CA  PHE A  37      14.263  44.169  21.590  1.00 24.95           C
ATOM    167  C   PHE A  37      13.949  43.447  20.301  1.00 25.32           C
ATOM    168  O   PHE A  37      13.191  42.512  20.274  1.00 25.29           O
ATOM    169  CB  PHE A  37      15.537  43.571  22.185  1.00 23.88           C
ATOM    170  CG  PHE A  37      15.340  42.162  22.731  1.00 22.69           C
ATOM    171  CD1 PHE A  37      15.353  41.077  21.890  1.00 20.43           C
ATOM    172  CD2 PHE A  37      15.104  41.949  24.076  1.00 23.12           C
ATOM    173  CE1 PHE A  37      15.160  39.778  22.386  1.00 22.83           C
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ATOM	174	CE2	PHE	A	37	14.920	40.666	24.578	1.00	22.73	C
ATOM	175	CZ	PHE	A	37	14.944	39.585	23.737	1.00	22.04	C
ATOM	176	N	PRO	A	38	14.533	43.907	19.222	1.00	25.57	N
ATOM	177	CA	PRO	A	38	14.396	43.216	17.950	1.00	25.50	C
ATOM	178	C	PRO	A	38	15.321	42.002	17.861	1.00	25.35	C
ATOM	179	O	PRO	A	38	16.280	41.887	18.640	1.00	25.01	O
ATOM	180	CB	PRO	A	38	14.815	44.278	16.944	1.00	25.31	C
ATOM	181	CG	PRO	A	38	15.776	45.181	17.729	1.00	26.61	C
ATOM	182	CD	PRO	A	38	15.271	45.178	19.125	1.00	25.73	C
ATOM	183	N	THR	A	39	15.032	41.124	16.902	1.00	24.60	N
ATOM	184	CA	THR	A	39	15.876	39.979	16.607	1.00	24.58	C
ATOM	185	C	THR	A	39	15.881	39.686	15.112	1.00	25.39	C
ATOM	186	O	THR	A	39	15.004	40.121	14.383	1.00	24.72	O
ATOM	187	CB	THR	A	39	15.364	38.721	17.295	1.00	24.33	C
ATOM	188	OG1	THR	A	39	14.023	38.453	16.860	1.00	21.36	O
ATOM	189	CG2	THR	A	39	15.256	38.892	18.832	1.00	23.91	C
ATOM	190	N	ARG	A	40	16.875	38.912	14.692	1.00	26.09	N
ATOM	191	CA	ARG	A	40	17.000	38.399	13.337	1.00	26.92	C
ATOM	192	C	ARG	A	40	17.057	36.884	13.469	1.00	26.73	C
ATOM	193	O	ARG	A	40	17.407	36.366	14.517	1.00	26.53	O
ATOM	194	CB	ARG	A	40	18.291	38.888	12.696	1.00	27.12	C
ATOM	195	CG	ARG	A	40	18.289	40.360	12.400	1.00	32.37	C
ATOM	196	CD	ARG	A	40	16.925	40.858	11.994	1.00	36.79	C
ATOM	197	NE	ARG	A	40	16.783	41.137	10.583	1.00	41.20	N
ATOM	198	CZ	ARG	A	40	15.617	41.408	10.023	1.00	46.28	C
ATOM	199	NH1	ARG	A	40	14.512	41.388	10.768	1.00	47.83	N
ATOM	200	NH2	ARG	A	40	15.548	41.708	8.731	1.00	48.02	N
ATOM	201	N	PRO	A	41	16.728	36.163	12.413	1.00	26.96	N
ATOM	202	CA	PRO	A	41	16.709	34.706	12.510	1.00	27.17	C
ATOM	203	C	PRO	A	41	18.085	34.054	12.469	1.00	26.50	C
ATOM	204	O	PRO	A	41	19.002	34.538	11.830	1.00	26.34	O
ATOM	205	CB	PRO	A	41	15.867	34.277	11.298	1.00	27.12	C
ATOM	206	CG	PRO	A	41	16.027	35.434	10.296	1.00	27.66	C
ATOM	207	CD	PRO	A	41	16.337	36.661	11.077	1.00	26.70	C
ATOM	208	N	ILE	A	42	18.214	32.951	13.185	1.00	25.35	N
ATOM	209	CA	ILE	A	42	19.400	32.143	13.070	1.00	24.29	C
ATOM	210	C	ILE	A	42	19.161	31.290	11.832	1.00	23.98	C
ATOM	211	O	ILE	A	42	18.050	30.793	11.632	1.00	24.20	O
ATOM	212	CB	ILE	A	42	19.530	31.283	14.302	1.00	24.58	C
ATOM	213	CG1	ILE	A	42	19.779	32.181	15.518	1.00	22.71	C
ATOM	214	CG2	ILE	A	42	20.644	30.233	14.113	1.00	24.95	C
ATOM	215	CD1	ILE	A	42	19.466	31.516	16.837	1.00	22.70	C
ATOM	216	N	PRO	A	43	20.168	31.122	10.989	1.00	23.44	N
ATOM	217	CA	PRO	A	43	20.016	30.276	9.807	1.00	23.74	C
ATOM	218	C	PRO	A	43	19.709	28.802	10.154	1.00	24.82	C
ATOM	219	O	PRO	A	43	20.281	28.292	11.130	1.00	24.03	O
ATOM	220	CB	PRO	A	43	21.372	30.397	9.107	1.00	24.23	C
ATOM	221	CG	PRO	A	43	22.071	31.602	9.740	1.00	23.91	C
ATOM	222	CD	PRO	A	43	21.504	31.737	11.092	1.00	23.12	C
ATOM	223	N	ARG	A	44	18.784	28.178	9.406	1.00	25.20	N
ATOM	224	CA	ARG	A	44	18.439	26.767	9.520	1.00	26.19	C
ATOM	225	C	ARG	A	44	18.977	26.125	8.269	1.00	25.69	C
ATOM	226	O	ARG	A	44	18.563	26.468	7.159	1.00	25.67	O
ATOM	227	CB	ARG	A	44	16.934	26.504	9.513	1.00	27.16	C
ATOM	228	CG	ARG	A	44	16.140	27.062	10.678	1.00	31.24	C
ATOM	229	CD	ARG	A	44	14.653	26.529	10.769	1.00	32.98	C
ATOM	230	NE	ARG	A	44	14.400	25.143	10.311	1.00	34.09	N
ATOM	231	CZ	ARG	A	44	14.258	24.070	11.128	1.00	33.28	C
ATOM	232	NH1	ARG	A	44	14.384	24.177	12.453	1.00	29.63	N
ATOM	233	NH2	ARG	A	44	13.995	22.873	10.617	1.00	34.28	N
ATOM	234	N	LEU	A	45	19.870	25.174	8.433	1.00	24.68	N

ATOM	235	CA	LEU	A	45	20.551	24.608	7.302	1.00	24.30	C
ATOM	236	C	LEU	A	45	20.768	23.134	7.471	1.00	24.39	C
ATOM	237	O	LEU	A	45	20.711	22.623	8.588	1.00	23.97	O
ATOM	238	CB	LEU	A	45	21.934	25.233	7.205	1.00	23.42	C
ATOM	239	CG	LEU	A	45	21.929	26.724	6.941	1.00	24.95	C
ATOM	240	CD1	LEU	A	45	23.339	27.284	7.080	1.00	26.26	C
ATOM	241	CD2	LEU	A	45	21.375	26.953	5.533	1.00	24.54	C
ATOM	242	N	SER	A	46	21.092	22.494	6.352	1.00	24.71	N
ATOM	243	CA	SER	A	46	21.498	21.119	6.345	1.00	25.24	C
ATOM	244	C	SER	A	46	22.930	21.043	6.804	1.00	25.58	C
ATOM	245	O	SER	A	46	23.741	21.908	6.522	1.00	24.65	O
ATOM	246	CB	SER	A	46	21.401	20.505	4.950	1.00	25.11	C
ATOM	247	OG	SER	A	46	21.863	19.150	4.965	1.00	24.50	O
ATOM	248	N	GLN	A	47	23.208	19.970	7.517	1.00	26.68	N
ATOM	249	CA	GLN	A	47	24.524	19.626	8.011	1.00	27.63	C
ATOM	250	C	GLN	A	47	25.510	19.442	6.853	1.00	28.01	C
ATOM	251	O	GLN	A	47	26.704	19.613	7.026	1.00	28.15	O
ATOM	252	CB	GLN	A	47	24.368	18.317	8.803	1.00	28.89	C
ATOM	253	CG	GLN	A	47	25.580	17.447	8.920	1.00	31.28	C
ATOM	254	CD	GLN	A	47	25.826	16.556	7.765	1.00	32.33	C
ATOM	255	OE1	GLN	A	47	24.906	16.149	7.048	1.00	37.08	O
ATOM	256	NE2	GLN	A	47	27.089	16.213	7.576	1.00	35.81	N
ATOM	257	N	SER	A	48	25.026	19.086	5.667	1.00	28.11	N
ATOM	258	CA	SER	A	48	25.930	18.925	4.524	1.00	28.72	C
ATOM	259	C	SER	A	48	26.222	20.262	3.828	1.00	29.21	C
ATOM	260	O	SER	A	48	27.068	20.339	2.936	1.00	29.21	O
ATOM	261	CB	SER	A	48	25.343	17.952	3.508	1.00	28.66	C
ATOM	262	OG	SER	A	48	24.111	18.440	2.993	1.00	29.43	O
ATOM	263	N	ASP	A	49	25.525	21.314	4.236	1.00	29.60	N
ATOM	264	CA	ASP	A	49	25.683	22.610	3.596	1.00	30.12	C
ATOM	265	C	ASP	A	49	26.949	23.307	4.087	1.00	30.43	C
ATOM	266	O	ASP	A	49	27.100	23.565	5.272	1.00	29.60	O
ATOM	267	CB	ASP	A	49	24.450	23.458	3.858	1.00	30.26	C
ATOM	268	CG	ASP	A	49	24.491	24.792	3.151	1.00	31.74	C
ATOM	269	OD1	ASP	A	49	25.589	25.306	2.859	1.00	31.79	O
ATOM	270	OD2	ASP	A	49	23.454	25.418	2.878	1.00	34.13	O
ATOM	271	N	PRO	A	50	27.829	23.668	3.155	1.00	31.31	N
ATOM	272	CA	PRO	A	50	29.123	24.273	3.499	1.00	31.63	C
ATOM	273	C	PRO	A	50	28.965	25.514	4.355	1.00	31.72	C
ATOM	274	O	PRO	A	50	29.849	25.807	5.164	1.00	31.85	O
ATOM	275	CB	PRO	A	50	29.726	24.643	2.124	1.00	31.53	C
ATOM	276	CG	PRO	A	50	29.036	23.738	1.168	1.00	32.13	C
ATOM	277	CD	PRO	A	50	27.624	23.620	1.697	1.00	31.55	C
ATOM	278	N	ARG	A	51	27.875	26.246	4.171	1.00	32.04	N
ATOM	279	CA	ARG	A	51	27.648	27.443	4.962	1.00	32.56	C
ATOM	280	C	ARG	A	51	27.478	27.078	6.439	1.00	32.09	C
ATOM	281	O	ARG	A	51	27.853	27.855	7.322	1.00	31.87	O
ATOM	282	CB	ARG	A	51	26.420	28.221	4.464	1.00	32.95	C
ATOM	283	CG	ARG	A	51	26.568	28.810	3.064	1.00	34.79	C
ATOM	284	CD	ARG	A	51	25.273	29.372	2.480	1.00	35.89	C
ATOM	285	NE	ARG	A	51	24.276	28.325	2.228	1.00	37.56	N
ATOM	286	CZ	ARG	A	51	22.982	28.564	2.061	1.00	39.54	C
ATOM	287	NH1	ARG	A	51	22.531	29.814	2.124	1.00	40.85	N
ATOM	288	NH2	ARG	A	51	22.135	27.573	1.823	1.00	38.55	N
ATOM	289	N	ALA	A	52	26.932	25.903	6.721	1.00	31.50	N
ATOM	290	CA	ALA	A	52	26.769	25.513	8.117	1.00	31.34	C
ATOM	291	C	ALA	A	52	28.135	25.310	8.744	1.00	31.24	C
ATOM	292	O	ALA	A	52	28.409	25.763	9.865	1.00	30.91	O
ATOM	293	CB	ALA	A	52	25.953	24.284	8.236	1.00	31.35	C
ATOM	294	N	GLU	A	53	29.005	24.652	8.005	1.00	30.92	N
ATOM	295	CA	GLU	A	53	30.332	24.404	8.501	1.00	31.92	C

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ATOM    296  C    GLU A  53      31.059  25.730   8.728  1.00 31.52           C
ATOM    297  O    GLU A  53      31.766  25.898   9.717  1.00 30.52           O
ATOM    298  CB   GLU A  53      31.119  23.554   7.525  1.00 32.10           C
ATOM    299  CG   GLU A  53      32.216  22.795   8.229  1.00 36.08           C
ATOM    300  CD   GLU A  53      31.776  21.411   8.717  1.00 39.44           C
ATOM    301  OE1  GLU A  53      30.629  21.234   9.167  1.00 40.34           O
ATOM    302  OE2  GLU A  53      32.606  20.487   8.652  1.00 43.45           O
ATOM    303  N    GLU A  54      30.870  26.665   7.808  1.00 31.32           N
ATOM    304  CA   GLU A  54      31.507  27.968   7.919  1.00 32.09           C
ATOM    305  C    GLU A  54      31.039  28.685   9.193  1.00 31.07           C
ATOM    306  O    GLU A  54      31.833  29.295   9.881  1.00 31.27           O
ATOM    307  CB   GLU A  54      31.218  28.812   6.681  1.00 32.42           C
ATOM    308  CG   GLU A  54      31.939  30.146   6.669  1.00 37.01           C
ATOM    309  CD   GLU A  54      31.662  30.966   5.410  1.00 40.45           C
ATOM    310  OE1  GLU A  54      30.843  30.528   4.558  1.00 41.94           O
ATOM    311  OE2  GLU A  54      32.268  32.051   5.285  1.00 43.43           O
ATOM    312  N    LEU A  55      29.761  28.567   9.534  1.00 29.85           N
ATOM    313  CA   LEU A  55      29.251  29.240  10.708  1.00 28.58           C
ATOM    314  C    LEU A  55      29.848  28.667  11.983  1.00 27.91           C
ATOM    315  O    LEU A  55      30.304  29.419  12.841  1.00 26.43           O
ATOM    316  CB   LEU A  55      27.734  29.179  10.733  1.00 28.61           C
ATOM    317  CG   LEU A  55      27.097  30.041   9.652  1.00 28.69           C
ATOM    318  CD1  LEU A  55      25.647  29.633   9.423  1.00 29.69           C
ATOM    319  CD2  LEU A  55      27.193  31.507  10.005  1.00 27.60           C
ATOM    320  N    ILE A  56      29.889  27.334  12.086  1.00 27.51           N
ATOM    321  CA   ILE A  56      30.432  26.679  13.278  1.00 27.49           C
ATOM    322  C    ILE A  56      31.910  27.014  13.457  1.00 28.32           C
ATOM    323  O    ILE A  56      32.359  27.353  14.549  1.00 28.51           O
ATOM    324  CB   ILE A  56      30.260  25.174  13.192  1.00 27.21           C
ATOM    325  CG1  ILE A  56      28.771  24.787  13.218  1.00 25.69           C
ATOM    326  CG2  ILE A  56      30.982  24.505  14.354  1.00 27.65           C
ATOM    327  CD1  ILE A  56      28.484  23.341  12.760  1.00 23.98           C
ATOM    328  N    GLU A  57      32.645  26.935  12.357  1.00 28.85           N
ATOM    329  CA   GLU A  57      34.068  27.230  12.308  1.00 29.98           C
ATOM    330  C    GLU A  57      34.319  28.623  12.837  1.00 30.12           C
ATOM    331  O    GLU A  57      35.306  28.869  13.524  1.00 31.00           O
ATOM    332  CB   GLU A  57      34.557  27.137  10.850  1.00 30.52           C
ATOM    333  CG   GLU A  57      36.003  27.518  10.610  1.00 33.37           C
ATOM    334  CD   GLU A  57      36.968  26.742  11.482  1.00 38.19           C
ATOM    335  OE1  GLU A  57      36.689  25.558  11.810  1.00 41.02           O
ATOM    336  OE2  GLU A  57      38.015  27.329  11.847  1.00 42.74           O
ATOM    337  N    ASN A  58      33.409  29.527  12.516  1.00 29.57           N
ATOM    338  CA   ASN A  58      33.516  30.911  12.929  1.00 29.62           C
ATOM    339  C    ASN A  58      32.852  31.222  14.230  1.00 27.88           C
ATOM    340  O    ASN A  58      32.690  32.364  14.566  1.00 26.74           O
ATOM    341  CB   ASN A  58      32.805  31.769  11.918  1.00 30.43           C
ATOM    342  CG   ASN A  58      33.719  32.439  11.040  1.00 33.87           C
ATOM    343  OD1  ASN A  58      34.040  31.918   9.965  1.00 36.67           O
ATOM    344  ND2  ASN A  58      34.189  33.629  11.467  1.00 38.66           N
ATOM    345  N    GLU A  59      32.396  30.205  14.922  1.00 27.73           N
ATOM    346  CA   GLU A  59      31.753  30.411  16.205  1.00 27.50           C
ATOM    347  C    GLU A  59      30.545  31.320  16.104  1.00 26.07           C
ATOM    348  O    GLU A  59      30.366  32.255  16.861  1.00 25.28           O
ATOM    349  CB   GLU A  59      32.795  30.867  17.224  1.00 28.12           C
ATOM    350  CG   GLU A  59      33.720  29.688  17.531  1.00 31.06           C
ATOM    351  CD   GLU A  59      34.739  29.965  18.604  1.00 35.24           C
ATOM    352  OE1  GLU A  59      35.826  30.432  18.239  1.00 39.24           O
ATOM    353  OE2  GLU A  59      34.469  29.698  19.795  1.00 37.54           O
ATOM    354  N    GLU A  60      29.691  30.982  15.155  1.00 25.70           N
ATOM    355  CA   GLU A  60      28.417  31.643  14.971  1.00 25.50           C
ATOM    356  C    GLU A  60      27.345  30.576  14.998  1.00 24.10           C
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ATOM    357  O   GLU A  60      27.527  29.479  14.487  1.00 22.92           O
ATOM    358  CB  GLU A  60      28.402  32.404  13.664  1.00 25.96           C
ATOM    359  CG  GLU A  60      29.454  33.497  13.697  1.00 30.39           C
ATOM    360  CD  GLU A  60      29.218  34.599  12.703  1.00 35.90           C
ATOM    361  OE1 GLU A  60      29.281  34.349  11.478  1.00 38.45           O
ATOM    362  OE2 GLU A  60      28.998  35.732  13.165  1.00 43.84           O
ATOM    363  N   PRO A  61      26.203  30.933  15.546  1.00 22.92           N
ATOM    364  CA  PRO A  61      25.112  29.983  15.735  1.00 22.31           C
ATOM    365  C   PRO A  61      24.482  29.519  14.445  1.00 21.76           C
ATOM    366  O   PRO A  61      24.394  30.252  13.474  1.00 21.59           O
ATOM    367  CB  PRO A  61      24.079  30.775  16.525  1.00 22.55           C
ATOM    368  CG  PRO A  61      24.450  32.218  16.380  1.00 21.42           C
ATOM    369  CD  PRO A  61      25.863  32.295  15.967  1.00 22.38           C
ATOM    370  N   VAL A  62      24.032  28.279  14.444  1.00 21.55           N
ATOM    371  CA  VAL A  62      23.306  27.739  13.317  1.00 21.90           C
ATOM    372  C   VAL A  62      22.415  26.622  13.817  1.00 22.38           C
ATOM    373  O   VAL A  62      22.771  25.886  14.757  1.00 22.77           O
ATOM    374  CB  VAL A  62      24.262  27.217  12.218  1.00 22.10           C
ATOM    375  CG1 VAL A  62      25.134  26.112  12.738  1.00 22.89           C
ATOM    376  CG2 VAL A  62      23.486  26.748  11.000  1.00 21.98           C
ATOM    377  N   VAL A  63      21.234  26.517  13.226  1.00 22.90           N
ATOM    378  CA  VAL A  63      20.373  25.398  13.499  1.00 23.20           C
ATOM    379  C   VAL A  63      20.586  24.373  12.378  1.00 23.18           C
ATOM    380  O   VAL A  63      20.395  24.682  11.208  1.00 23.38           O
ATOM    381  CB  VAL A  63      18.880  25.768  13.561  1.00 23.27           C
ATOM    382  CG1 VAL A  63      18.046  24.483  13.754  1.00 24.19           C
ATOM    383  CG2 VAL A  63      18.620  26.695  14.692  1.00 22.51           C
ATOM    384  N   LEU A  64      21.007  23.181  12.756  1.00 23.15           N
ATOM    385  CA  LEU A  64      21.158  22.060  11.835  1.00 24.29           C
ATOM    386  C   LEU A  64      19.904  21.203  11.906  1.00 23.48           C
ATOM    387  O   LEU A  64      19.488  20.816  12.988  1.00 23.20           O
ATOM    388  CB  LEU A  64      22.383  21.235  12.206  1.00 24.79           C
ATOM    389  CG  LEU A  64      23.649  22.089  12.141  1.00 28.22           C
ATOM    390  CD1 LEU A  64      24.810  21.338  12.699  1.00 32.80           C
ATOM    391  CD2 LEU A  64      23.946  22.478  10.719  1.00 30.04           C
ATOM    392  N   THR A  65      19.308  20.910  10.759  1.00 22.79           N
ATOM    393  CA  THR A  65      18.019  20.218  10.740  1.00 23.27           C
ATOM    394  C   THR A  65      18.088  18.730  10.534  1.00 23.05           C
ATOM    395  O   THR A  65      17.102  18.050  10.765  1.00 22.85           O
ATOM    396  CB  THR A  65      17.150  20.724   9.571  1.00 23.53           C
ATOM    397  OG1 THR A  65      17.855  20.496   8.352  1.00 22.75           O
ATOM    398  CG2 THR A  65      16.966  22.226   9.609  1.00 24.78           C
ATOM    399  N   ASP A  66      19.231  18.227  10.093  1.00 23.33           N
ATOM    400  CA  ASP A  66      19.330  16.828   9.731  1.00 23.76           C
ATOM    401  C   ASP A  66      20.581  16.076  10.209  1.00 23.41           C
ATOM    402  O   ASP A  66      21.117  15.265   9.457  1.00 23.64           O
ATOM    403  CB  ASP A  66      19.245  16.732   8.199  1.00 23.97           C
ATOM    404  CG  ASP A  66      20.326  17.517   7.514  1.00 24.64           C
ATOM    405  OD1 ASP A  66      21.175  18.099   8.223  1.00 23.06           O
ATOM    406  OD2 ASP A  66      20.417  17.612   6.268  1.00 26.54           O
ATOM    407  N   THR A  67      21.050  16.336  11.428  1.00 22.72           N
ATOM    408  CA  THR A  67      22.235  15.655  11.912  1.00 21.85           C
ATOM    409  C   THR A  67      21.928  14.246  12.349  1.00 21.26           C
ATOM    410  O   THR A  67      22.813  13.429  12.353  1.00 20.41           O
ATOM    411  CB  THR A  67      22.836  16.345  13.138  1.00 21.92           C
ATOM    412  OG1 THR A  67      21.884  16.347  14.200  1.00 20.59           O
ATOM    413  CG2 THR A  67      23.161  17.822  12.873  1.00 23.29           C
ATOM    414  N   ASN A  68      20.684  13.993  12.752  1.00 20.82           N
ATOM    415  CA  ASN A  68      20.321  12.741  13.386  1.00 21.01           C
ATOM    416  C   ASN A  68      21.146  12.525  14.652  1.00 20.47           C
ATOM    417  O   ASN A  68      21.370  11.377  15.069  1.00 20.06           O
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ATOM    418  CB  ASN A  68      20.516  11.546  12.444  1.00 21.63           C
ATOM    419  CG  ASN A  68      19.476  11.493  11.340  1.00 22.28           C
ATOM    420  OD1 ASN A  68      18.276  11.429  11.601  1.00 23.83           O
ATOM    421  ND2 ASN A  68      19.936  11.492  10.108  1.00 22.82           N
ATOM    422  N   LEU A  69      21.613  13.617  15.248  1.00 19.86           N
ATOM    423  CA  LEU A  69      22.442  13.533  16.464  1.00 19.68           C
ATOM    424  C   LEU A  69      21.814  12.707  17.571  1.00 19.03           C
ATOM    425  O   LEU A  69      22.492  11.878  18.169  1.00 18.33           O
ATOM    426  CB  LEU A  69      22.770  14.907  17.009  1.00 19.89           C
ATOM    427  CG  LEU A  69      23.654  14.999  18.239  1.00 19.87           C
ATOM    428  CD1 LEU A  69      24.970  14.289  18.035  1.00 20.74           C
ATOM    429  CD2 LEU A  69      23.911  16.459  18.577  1.00 20.41           C
ATOM    430  N   VAL A  70      20.538  12.940  17.860  1.00 18.84           N
ATOM    431  CA  VAL A  70      19.843  12.177  18.894  1.00 18.85           C
ATOM    432  C   VAL A  70      18.634  11.447  18.339  1.00 19.17           C
ATOM    433  O   VAL A  70      17.604  11.325  19.000  1.00 18.71           O
ATOM    434  CB  VAL A  70      19.418  13.038  20.097  1.00 18.97           C
ATOM    435  CG1 VAL A  70      20.645  13.557  20.812  1.00 20.41           C
ATOM    436  CG2 VAL A  70      18.513  14.185  19.686  1.00 18.87           C
ATOM    437  N   TYR A  71      18.796  10.916  17.133  1.00 20.12           N
ATOM    438  CA  TYR A  71      17.711  10.224  16.454  1.00 20.64           C
ATOM    439  C   TYR A  71      17.003   9.218  17.377  1.00 20.76           C
ATOM    440  O   TYR A  71      15.804   9.275  17.507  1.00 20.54           O
ATOM    441  CB  TYR A  71      18.186   9.591  15.136  1.00 20.75           C
ATOM    442  CG  TYR A  71      17.243   8.517  14.628  1.00 23.02           C
ATOM    443  CD1 TYR A  71      16.012   8.837  14.046  1.00 24.62           C
ATOM    444  CD2 TYR A  71      17.572   7.182  14.754  1.00 22.94           C
ATOM    445  CE1 TYR A  71      15.132   7.800  13.595  1.00 23.64           C
ATOM    446  CE2 TYR A  71      16.730   6.174  14.312  1.00 23.48           C
ATOM    447  CZ  TYR A  71      15.524   6.478  13.730  1.00 24.03           C
ATOM    448  OH  TYR A  71      14.697   5.422  13.349  1.00 29.55           O
ATOM    449  N   PRO A  72      17.728   8.356  18.068  1.00 21.35           N
ATOM    450  CA  PRO A  72      17.080   7.363  18.945  1.00 21.89           C
ATOM    451  C   PRO A  72      16.296   7.955  20.106  1.00 22.22           C
ATOM    452  O   PRO A  72      15.432   7.269  20.628  1.00 21.25           O
ATOM    453  CB  PRO A  72      18.248   6.538  19.493  1.00 21.83           C
ATOM    454  CG  PRO A  72      19.420   6.849  18.606  1.00 22.53           C
ATOM    455  CD  PRO A  72      19.192   8.240  18.080  1.00 21.81           C
ATOM    456  N   ALA A  73      16.568   9.206  20.484  1.00 22.77           N
ATOM    457  CA  ALA A  73      15.859   9.836  21.605  1.00 23.23           C
ATOM    458  C   ALA A  73      14.542  10.487  21.178  1.00 23.64           C
ATOM    459  O   ALA A  73      13.764  10.966  22.014  1.00 23.47           O
ATOM    460  CB  ALA A  73      16.750  10.860  22.284  1.00 22.77           C
ATOM    461  N   LEU A  74      14.275  10.507  19.881  1.00 24.25           N
ATOM    462  CA  LEU A  74      13.057  11.148  19.405  1.00 24.86           C
ATOM    463  C   LEU A  74      11.792  10.466  19.920  1.00 25.46           C
ATOM    464  O   LEU A  74      10.729  11.070  19.967  1.00 25.11           O
ATOM    465  CB  LEU A  74      13.055  11.240  17.881  1.00 24.77           C
ATOM    466  CG  LEU A  74      14.160  12.161  17.338  1.00 26.74           C
ATOM    467  CD1 LEU A  74      13.915  12.478  15.867  1.00 28.86           C
ATOM    468  CD2 LEU A  74      14.288  13.447  18.135  1.00 26.86           C
ATOM    469  N   LYS A  75      11.908   9.204  20.306  1.00 26.12           N
ATOM    470  CA  LYS A  75      10.756   8.460  20.814  1.00 26.39           C
ATOM    471  C   LYS A  75      10.585   8.687  22.309  1.00 26.71           C
ATOM    472  O   LYS A  75       9.584   8.284  22.875  1.00 26.80           O
ATOM    473  CB  LYS A  75      10.918   6.963  20.534  1.00 26.36           C
ATOM    474  CG  LYS A  75      12.141   6.322  21.185  1.00 26.49           C
ATOM    475  CD  LYS A  75      12.254   4.813  20.838  1.00 27.59           C
ATOM    476  CE  LYS A  75      13.732   4.367  20.671  1.00 27.21           C
ATOM    477  NZ  LYS A  75      14.475   4.226  21.912  1.00 24.71           N
ATOM    478  N   TRP A  76      11.561   9.327  22.950  1.00 26.64           N
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ATOM    479  CA  TRP A  76      11.484   9.557  24.383  1.00 26.78           C
ATOM    480  C   TRP A  76      10.253  10.368  24.770  1.00 27.48           C
ATOM    481  O   TRP A  76       9.889  11.317  24.095  1.00 27.93           O
ATOM    482  CB  TRP A  76      12.717  10.311  24.888  1.00 26.57           C
ATOM    483  CG  TRP A  76      13.963   9.500  24.895  1.00 25.80           C
ATOM    484  CD1 TRP A  76      14.101   8.219  24.486  1.00 24.26           C
ATOM    485  CD2 TRP A  76      15.255   9.917  25.347  1.00 22.71           C
ATOM    486  NE1 TRP A  76      15.399   7.804  24.647  1.00 23.20           N
ATOM    487  CE2 TRP A  76      16.128   8.829  25.178  1.00 22.53           C
ATOM    488  CE3 TRP A  76      15.767  11.107  25.867  1.00 21.96           C
ATOM    489  CZ2 TRP A  76      17.468   8.890  25.520  1.00 22.50           C
ATOM    490  CZ3 TRP A  76      17.090  11.172  26.202  1.00 20.53           C
ATOM    491  CH2 TRP A  76      17.931  10.076  26.029  1.00 22.36           C
ATOM    492  N   ASP A  77       9.639   9.976  25.880  1.00 27.85           N
ATOM    493  CA  ASP A  77       8.532  10.684  26.484  1.00 27.74           C
ATOM    494  C   ASP A  77       8.560  10.277  27.957  1.00 27.45           C
ATOM    495  O   ASP A  77       9.373   9.460  28.336  1.00 27.22           O
ATOM    496  CB  ASP A  77       7.208  10.368  25.800  1.00 27.89           C
ATOM    497  CG  ASP A  77       6.802   8.913  25.903  1.00 29.06           C
ATOM    498  OD1 ASP A  77       7.354   8.108  26.708  1.00 30.51           O
ATOM    499  OD2 ASP A  77       5.894   8.489  25.179  1.00 31.13           O
ATOM    500  N   LEU A  78       7.710  10.847  28.796  1.00 27.47           N
ATOM    501  CA  LEU A  78       7.819  10.578  30.229  1.00 27.63           C
ATOM    502  C   LEU A  78       7.655   9.101  30.542  1.00 27.81           C
ATOM    503  O   LEU A  78       8.386   8.548  31.367  1.00 27.16           O
ATOM    504  CB  LEU A  78       6.818  11.409  31.011  1.00 27.59           C
ATOM    505  CG  LEU A  78       7.007  12.916  30.880  1.00 28.68           C
ATOM    506  CD1 LEU A  78       5.906  13.677  31.612  1.00 28.95           C
ATOM    507  CD2 LEU A  78       8.369  13.328  31.412  1.00 29.32           C
ATOM    508  N   GLU A  79       6.721   8.450  29.860  1.00 28.17           N
ATOM    509  CA  GLU A  79       6.480   7.035  30.102  1.00 28.56           C
ATOM    510  C   GLU A  79       7.715   6.185  29.781  1.00 28.22           C
ATOM    511  O   GLU A  79       8.167   5.388  30.600  1.00 27.73           O
ATOM    512  CB  GLU A  79       5.267   6.540  29.298  1.00 28.87           C
ATOM    513  CG  GLU A  79       5.051   5.049  29.467  1.00 31.45           C
ATOM    514  CD  GLU A  79       3.849   4.516  28.716  1.00 34.79           C
ATOM    515  OE1 GLU A  79       3.422   5.129  27.709  1.00 35.78           O
ATOM    516  OE2 GLU A  79       3.343   3.457  29.144  1.00 37.92           O
ATOM    517  N   TYR A  80       8.260   6.346  28.582  1.00 28.27           N
ATOM    518  CA  TYR A  80       9.452   5.597  28.200  1.00 28.00           C
ATOM    519  C   TYR A  80      10.628   5.873  29.142  1.00 27.64           C
ATOM    520  O   TYR A  80      11.330   4.958  29.563  1.00 27.16           O
ATOM    521  CB  TYR A  80       9.838   5.964  26.787  1.00 28.13           C
ATOM    522  CG  TYR A  80      11.054   5.250  26.246  1.00 27.95           C
ATOM    523  CD1 TYR A  80      10.952   3.991  25.644  1.00 27.39           C
ATOM    524  CD2 TYR A  80      12.300   5.846  26.306  1.00 25.55           C
ATOM    525  CE1 TYR A  80      12.089   3.352  25.128  1.00 26.82           C
ATOM    526  CE2 TYR A  80      13.417   5.224  25.808  1.00 25.50           C
ATOM    527  CZ  TYR A  80      13.320   3.992  25.213  1.00 25.64           C
ATOM    528  OH  TYR A  80      14.467   3.426  24.703  1.00 23.50           O
ATOM    529  N   LEU A  81      10.839   7.135  29.482  1.00 27.51           N
ATOM    530  CA  LEU A  81      11.952   7.477  30.371  1.00 27.75           C
ATOM    531  C   LEU A  81      11.741   6.943  31.801  1.00 27.76           C
ATOM    532  O   LEU A  81      12.682   6.459  32.437  1.00 27.35           O
ATOM    533  CB  LEU A  81      12.194   8.990  30.399  1.00 27.35           C
ATOM    534  CG  LEU A  81      12.659   9.656  29.096  1.00 28.06           C
ATOM    535  CD1 LEU A  81      12.664  11.170  29.269  1.00 28.55           C
ATOM    536  CD2 LEU A  81      14.036   9.192  28.655  1.00 27.65           C
ATOM    537  N   GLN A  82      10.521   7.049  32.313  1.00 28.10           N
ATOM    538  CA  GLN A  82      10.234   6.557  33.656  1.00 28.61           C
ATOM    539  C   GLN A  82      10.525   5.066  33.689  1.00 28.32           C
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ATOM	540	O	GLN	A	82	11.070	4.550	34.643	1.00 28.25	O
ATOM	541	CB	GLN	A	82	8.774	6.805	34.032	1.00 29.04	C
ATOM	542	CG	GLN	A	82	8.325	6.063	35.293	1.00 30.18	C
ATOM	543	CD	GLN	A	82	7.184	6.754	36.042	1.00 32.25	C
ATOM	544	OE1	GLN	A	82	6.642	7.758	35.594	1.00 34.51	O
ATOM	545	NE2	GLN	A	82	6.822	6.204	37.189	1.00 36.79	N
ATOM	546	N	GLU	A	83	10.193	4.397	32.601	1.00 28.58	N
ATOM	547	CA	GLU	A	83	10.349	2.950	32.492	1.00 28.70	C
ATOM	548	C	GLU	A	83	11.801	2.515	32.314	1.00 28.14	C
ATOM	549	O	GLU	A	83	12.166	1.424	32.713	1.00 27.54	O
ATOM	550	CB	GLU	A	83	9.506	2.438	31.319	1.00 28.53	C
ATOM	551	CG	GLU	A	83	9.562	0.937	31.101	1.00 30.76	C
ATOM	552	CD	GLU	A	83	8.985	0.150	32.265	1.00 33.31	C
ATOM	553	OE1	GLU	A	83	8.172	0.713	33.030	1.00 35.22	O
ATOM	554	OE2	GLU	A	83	9.352	-1.033	32.428	1.00 35.98	O
ATOM	555	N	ASN	A	84	12.644	3.374	31.753	1.00 27.44	N
ATOM	556	CA	ASN	A	84	13.985	2.938	31.400	1.00 27.09	C
ATOM	557	C	ASN	A	84	15.168	3.729	31.913	1.00 27.31	C
ATOM	558	O	ASN	A	84	16.291	3.276	31.759	1.00 27.17	O
ATOM	559	CB	ASN	A	84	14.099	2.917	29.879	1.00 27.17	C
ATOM	560	CG	ASN	A	84	13.226	1.890	29.254	1.00 26.24	C
ATOM	561	OD1	ASN	A	84	13.361	0.696	29.532	1.00 27.49	O
ATOM	562	ND2	ASN	A	84	12.312	2.333	28.413	1.00 23.37	N
ATOM	563	N	ILE	A	85	14.952	4.893	32.511	1.00 27.52	N
ATOM	564	CA	ILE	A	85	16.088	5.734	32.861	1.00 28.25	C
ATOM	565	C	ILE	A	85	16.788	5.390	34.185	1.00 28.03	C
ATOM	566	O	ILE	A	85	17.700	6.094	34.610	1.00 28.40	O
ATOM	567	CB	ILE	A	85	15.684	7.221	32.801	1.00 28.23	C
ATOM	568	CG1	ILE	A	85	16.872	8.069	32.342	1.00 29.61	C
ATOM	569	CG2	ILE	A	85	15.143	7.694	34.139	1.00 29.11	C
ATOM	570	CD1	ILE	A	85	16.520	9.535	31.996	1.00 28.97	C
ATOM	571	N	GLY	A	86	16.368	4.317	34.833	1.00 28.14	N
ATOM	572	CA	GLY	A	86	17.014	3.874	36.061	1.00 28.15	C
ATOM	573	C	GLY	A	86	16.478	4.504	37.335	1.00 28.11	C
ATOM	574	O	GLY	A	86	15.494	5.251	37.308	1.00 27.93	O
ATOM	575	N	ASN	A	87	17.162	4.220	38.444	1.00 27.96	N
ATOM	576	CA	ASN	A	87	16.754	4.672	39.767	1.00 27.88	C
ATOM	577	C	ASN	A	87	17.736	5.677	40.373	1.00 27.82	C
ATOM	578	O	ASN	A	87	17.751	5.886	41.585	1.00 27.63	O
ATOM	579	CB	ASN	A	87	16.571	3.447	40.713	1.00 27.89	C
ATOM	580	N	GLY	A	88	18.559	6.301	39.538	1.00 28.21	N
ATOM	581	CA	GLY	A	88	19.478	7.336	40.006	1.00 28.18	C
ATOM	582	C	GLY	A	88	18.706	8.584	40.396	1.00 28.19	C
ATOM	583	O	GLY	A	88	17.520	8.676	40.097	1.00 28.62	O
ATOM	584	N	ASP	A	89	19.357	9.530	41.068	1.00 27.99	N
ATOM	585	CA	ASP	A	89	18.707	10.781	41.468	1.00 28.09	C
ATOM	586	C	ASP	A	89	18.655	11.806	40.335	1.00 28.00	C
ATOM	587	O	ASP	A	89	19.557	11.866	39.507	1.00 28.07	O
ATOM	588	CB	ASP	A	89	19.467	11.433	42.613	1.00 28.24	C
ATOM	589	CG	ASP	A	89	19.249	10.747	43.935	1.00 28.53	C
ATOM	590	OD1	ASP	A	89	18.398	9.843	44.024	1.00 30.26	O
ATOM	591	OD2	ASP	A	89	19.884	11.070	44.955	1.00 29.31	O
ATOM	592	N	PHE	A	90	17.620	12.637	40.330	1.00 27.56	N
ATOM	593	CA	PHE	A	90	17.510	13.687	39.332	1.00 27.37	C
ATOM	594	C	PHE	A	90	17.291	15.037	39.993	1.00 27.78	C
ATOM	595	O	PHE	A	90	16.453	15.171	40.884	1.00 27.69	O
ATOM	596	CB	PHE	A	90	16.378	13.388	38.351	1.00 27.05	C
ATOM	597	CG	PHE	A	90	16.678	12.262	37.408	1.00 25.85	C
ATOM	598	CD1	PHE	A	90	16.525	10.943	37.806	1.00 25.70	C
ATOM	599	CD2	PHE	A	90	17.119	12.521	36.121	1.00 26.20	C
ATOM	600	CE1	PHE	A	90	16.797	9.908	36.943	1.00 24.06	C

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ATOM    601  CE2 PHE A  90      17.395  11.489  35.248  1.00 25.49           C
ATOM    602  CZ  PHE A  90      17.235  10.176  35.666  1.00 25.33           C
ATOM    603  N   SER A  91      18.062  16.033  39.560  1.00 27.85           N
ATOM    604  CA  SER A  91      17.902  17.384  40.075  1.00 28.17           C
ATOM    605  C   SER A  91      16.695  18.023  39.419  1.00 28.48           C
ATOM    606  O   SER A  91      16.589  18.085  38.192  1.00 28.35           O
ATOM    607  CB  SER A  91      19.149  18.236  39.838  1.00 27.86           C
ATOM    608  OG  SER A  91      20.260  17.652  40.485  1.00 27.15           O
ATOM    609  N   VAL A  92      15.784  18.482  40.261  1.00 29.05           N
ATOM    610  CA  VAL A  92      14.585  19.141  39.812  1.00 29.67           C
ATOM    611  C   VAL A  92      14.437  20.465  40.529  1.00 30.31           C
ATOM    612  O   VAL A  92      14.442  20.537  41.763  1.00 30.37           O
ATOM    613  CB  VAL A  92      13.352  18.313  40.106  1.00 29.81           C
ATOM    614  CG1 VAL A  92      12.106  19.026  39.582  1.00 29.93           C
ATOM    615  CG2 VAL A  92      13.490  16.930  39.507  1.00 29.60           C
ATOM    616  N   TYR A  93      14.329  21.516  39.732  1.00 31.00           N
ATOM    617  CA  TYR A  93      14.135  22.845  40.241  1.00 31.29           C
ATOM    618  C   TYR A  93      12.662  23.113  40.298  1.00 31.54           C
ATOM    619  O   TYR A  93      11.892  22.701  39.423  1.00 31.35           O
ATOM    620  CB  TYR A  93      14.829  23.853  39.345  1.00 31.87           C
ATOM    621  CG  TYR A  93      16.310  23.711  39.436  1.00 33.05           C
ATOM    622  CD1 TYR A  93      17.012  24.283  40.482  1.00 34.67           C
ATOM    623  CD2 TYR A  93      16.998  22.954  38.525  1.00 34.24           C
ATOM    624  CE1 TYR A  93      18.357  24.125  40.593  1.00 35.09           C
ATOM    625  CE2 TYR A  93      18.338  22.789  38.634  1.00 36.36           C
ATOM    626  CZ  TYR A  93      19.011  23.379  39.670  1.00 36.33           C
ATOM    627  OH  TYR A  93      20.357  23.204  39.772  1.00 40.81           O
ATOM    628  N   SER A  94      12.286  23.813  41.351  1.00 32.03           N
ATOM    629  CA  SER A  94      10.919  24.182  41.599  1.00 32.31           C
ATOM    630  C   SER A  94      10.884  25.692  41.704  1.00 32.42           C
ATOM    631  O   SER A  94      11.743  26.286  42.350  1.00 32.48           O
ATOM    632  CB  SER A  94      10.464  23.566  42.914  1.00 32.38           C
ATOM    633  OG  SER A  94       9.062  23.691  43.052  1.00 33.53           O
ATOM    634  N   ALA A  95       9.902  26.314  41.070  1.00 32.58           N
ATOM    635  CA  ALA A  95       9.766  27.757  41.135  1.00 32.90           C
ATOM    636  C   ALA A  95       8.312  28.172  41.076  1.00 33.48           C
ATOM    637  O   ALA A  95       7.446  27.429  40.620  1.00 33.62           O
ATOM    638  CB  ALA A  95      10.528  28.413  39.996  1.00 32.80           C
ATOM    639  N   SER A  96       8.053  29.382  41.539  1.00 34.08           N
ATOM    640  CA  SER A  96       6.721  29.932  41.482  1.00 34.75           C
ATOM    641  C   SER A  96       6.616  30.974  40.382  1.00 34.55           C
ATOM    642  O   SER A  96       5.603  31.659  40.275  1.00 35.29           O
ATOM    643  CB  SER A  96       6.363  30.592  42.801  1.00 35.05           C
ATOM    644  OG  SER A  96       5.165  31.311  42.627  1.00 36.18           O
ATOM    645  N   THR A  97       7.673  31.107  39.593  1.00 33.88           N
ATOM    646  CA  THR A  97       7.716  32.046  38.477  1.00 33.41           C
ATOM    647  C   THR A  97       8.084  31.238  37.265  1.00 32.32           C
ATOM    648  O   THR A  97       8.590  30.143  37.411  1.00 32.10           O
ATOM    649  CB  THR A  97       8.797  33.144  38.695  1.00 33.64           C
ATOM    650  OG1 THR A  97       9.067  33.810  37.460  1.00 33.76           O
ATOM    651  CG2 THR A  97      10.190  32.559  39.058  1.00 34.25           C
ATOM    652  N   HIS A  98       7.840  31.762  36.073  1.00 31.47           N
ATOM    653  CA  HIS A  98       8.278  31.071  34.863  1.00 30.97           C
ATOM    654  C   HIS A  98       9.804  31.134  34.707  1.00 30.53           C
ATOM    655  O   HIS A  98      10.378  30.379  33.940  1.00 29.14           O
ATOM    656  CB  HIS A  98       7.613  31.666  33.621  1.00 31.14           C
ATOM    657  CG  HIS A  98       7.878  33.125  33.415  1.00 30.86           C
ATOM    658  ND1 HIS A  98       7.121  34.112  34.011  1.00 31.51           N
ATOM    659  CD2 HIS A  98       8.795  33.767  32.651  1.00 31.48           C
ATOM    660  CE1 HIS A  98       7.566  35.298  33.634  1.00 31.14           C
ATOM    661  NE2 HIS A  98       8.581  35.118  32.805  1.00 30.50           N
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ATOM    662  N   LYS A  99      10.459  32.025  35.449  1.00 30.36           N
ATOM    663  CA  LYS A  99      11.895  32.198  35.298  1.00 31.07           C
ATOM    664  C   LYS A  99      12.761  31.288  36.166  1.00 31.00           C
ATOM    665  O   LYS A  99      12.693  31.337  37.396  1.00 31.91           O
ATOM    666  CB  LYS A  99      12.265  33.643  35.544  1.00 31.15           C
ATOM    667  CG  LYS A  99      11.887  34.551  34.391  1.00 33.39           C
ATOM    668  CD  LYS A  99      12.486  35.945  34.556  1.00 36.16           C
ATOM    669  CE  LYS A  99      11.763  36.771  35.607  1.00 37.52           C
ATOM    670  NZ  LYS A  99      10.620  37.507  35.006  1.00 38.84           N
ATOM    671  N   PHE A 100      13.572  30.453  35.518  1.00 30.20           N
ATOM    672  CA  PHE A 100      14.517  29.606  36.232  1.00 30.03           C
ATOM    673  C   PHE A 100      15.952  30.123  36.138  1.00 29.72           C
ATOM    674  O   PHE A 100      16.826  29.544  35.481  1.00 29.39           O
ATOM    675  CB  PHE A 100      14.441  28.168  35.744  1.00 29.93           C
ATOM    676  CG  PHE A 100      13.223  27.452  36.206  1.00 29.72           C
ATOM    677  CD1 PHE A 100      12.014  27.637  35.566  1.00 28.98           C
ATOM    678  CD2 PHE A 100      13.283  26.596  37.289  1.00 30.77           C
ATOM    679  CE1 PHE A 100      10.896  26.969  35.983  1.00 30.22           C
ATOM    680  CE2 PHE A 100      12.158  25.919  37.719  1.00 30.51           C
ATOM    681  CZ  PHE A 100      10.967  26.105  37.069  1.00 30.63           C
ATOM    682  N   LEU A 101      16.178  31.235  36.809  1.00 29.87           N
ATOM    683  CA  LEU A 101      17.495  31.812  36.919  1.00 29.57           C
ATOM    684  C   LEU A 101      18.451  30.814  37.555  1.00 29.61           C
ATOM    685  O   LEU A 101      18.249  30.380  38.679  1.00 28.35           O
ATOM    686  CB  LEU A 101      17.412  33.057  37.787  1.00 29.68           C
ATOM    687  CG  LEU A 101      18.707  33.845  37.954  1.00 29.68           C
ATOM    688  CD1 LEU A 101      19.184  34.337  36.620  1.00 28.70           C
ATOM    689  CD2 LEU A 101      18.474  35.014  38.909  1.00 31.41           C
ATOM    690  N   TYR A 102      19.490  30.440  36.816  1.00 30.36           N
ATOM    691  CA  TYR A 102      20.516  29.535  37.338  1.00 30.64           C
ATOM    692  C   TYR A 102      21.332  30.228  38.440  1.00 30.93           C
ATOM    693  O   TYR A 102      21.623  31.425  38.339  1.00 30.67           O
ATOM    694  CB  TYR A 102      21.480  29.101  36.224  1.00 30.45           C
ATOM    695  CG  TYR A 102      22.609  28.271  36.774  1.00 31.25           C
ATOM    696  CD1 TYR A 102      22.430  26.916  37.062  1.00 31.33           C
ATOM    697  CD2 TYR A 102      23.842  28.844  37.054  1.00 31.29           C
ATOM    698  CE1 TYR A 102      23.456  26.163  37.612  1.00 32.81           C
ATOM    699  CE2 TYR A 102      24.869  28.098  37.601  1.00 32.24           C
ATOM    700  CZ  TYR A 102      24.676  26.764  37.876  1.00 34.18           C
ATOM    701  OH  TYR A 102      25.720  26.030  38.418  1.00 39.06           O
ATOM    702  N   TYR A 103      21.684  29.478  39.488  1.00 31.28           N
ATOM    703  CA  TYR A 103      22.569  29.983  40.539  1.00 31.56           C
ATOM    704  C   TYR A 103      23.524  28.911  41.058  1.00 31.11           C
ATOM    705  O   TYR A 103      23.190  27.732  41.165  1.00 30.75           O
ATOM    706  CB  TYR A 103      21.796  30.599  41.706  1.00 31.98           C
ATOM    707  CG  TYR A 103      20.846  29.663  42.385  1.00 33.92           C
ATOM    708  CD1 TYR A 103      19.577  29.445  41.868  1.00 36.08           C
ATOM    709  CD2 TYR A 103      21.203  29.010  43.553  1.00 36.91           C
ATOM    710  CE1 TYR A 103      18.696  28.587  42.483  1.00 37.42           C
ATOM    711  CE2 TYR A 103      20.325  28.153  44.189  1.00 37.63           C
ATOM    712  CZ  TYR A 103      19.070  27.947  43.647  1.00 38.74           C
ATOM    713  OH  TYR A 103      18.183  27.099  44.264  1.00 40.90           O
ATOM    714  N   ASP A 104      24.725  29.345  41.391  1.00 30.34           N
ATOM    715  CA  ASP A 104      25.752  28.444  41.873  1.00 30.04           C
ATOM    716  C   ASP A 104      25.735  28.408  43.394  1.00 29.73           C
ATOM    717  O   ASP A 104      26.079  29.388  44.062  1.00 28.53           O
ATOM    718  CB  ASP A 104      27.089  28.931  41.350  1.00 30.07           C
ATOM    719  CG  ASP A 104      28.233  28.037  41.731  1.00 30.02           C
ATOM    720  OD1 ASP A 104      28.069  27.137  42.605  1.00 28.92           O
ATOM    721  OD2 ASP A 104      29.339  28.183  41.168  1.00 29.24           O
ATOM    722  N   GLU A 105      25.327  27.263  43.931  1.00 29.74           N
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ATOM	723	CA	GLU	A	105	25.169	27.095	45.371	1.00 29.91	C
ATOM	724	C	GLU	A	105	26.461	27.343	46.155	1.00 29.29	C
ATOM	725	O	GLU	A	105	26.412	27.872	47.263	1.00 28.37	O
ATOM	726	CB	GLU	A	105	24.601	25.699	45.672	1.00 30.40	C
ATOM	727	CG	GLU	A	105	23.097	25.621	45.410	1.00 32.58	C
ATOM	728	CD	GLU	A	105	22.546	24.210	45.287	1.00 34.72	C
ATOM	729	OE1	GLU	A	105	22.945	23.320	46.072	1.00 35.38	O
ATOM	730	OE2	GLU	A	105	21.683	24.001	44.402	1.00 35.93	O
ATOM	731	N	LYS	A	106	27.607	27.000	45.565	1.00 29.02	N
ATOM	732	CA	LYS	A	106	28.897	27.156	46.243	1.00 29.26	C
ATOM	733	C	LYS	A	106	29.245	28.608	46.493	1.00 29.31	C
ATOM	734	O	LYS	A	106	30.051	28.903	47.363	1.00 28.83	O
ATOM	735	CB	LYS	A	106	30.036	26.530	45.433	1.00 29.60	C
ATOM	736	CG	LYS	A	106	29.864	25.036	45.094	1.00 30.18	C
ATOM	737	N	LYS	A	107	28.646	29.516	45.724	1.00 29.27	N
ATOM	738	CA	LYS	A	107	28.925	30.933	45.876	1.00 29.61	C
ATOM	739	C	LYS	A	107	27.933	31.605	46.820	1.00 30.29	C
ATOM	740	O	LYS	A	107	28.062	32.785	47.100	1.00 30.16	O
ATOM	741	CB	LYS	A	107	28.924	31.636	44.504	1.00 29.35	C
ATOM	742	CG	LYS	A	107	30.222	31.411	43.697	1.00 28.97	C
ATOM	743	CD	LYS	A	107	30.142	31.864	42.230	1.00 26.18	C
ATOM	744	CE	LYS	A	107	31.459	31.534	41.498	1.00 26.51	C
ATOM	745	NZ	LYS	A	107	31.578	32.052	40.083	1.00 24.21	N
ATOM	746	N	MET	A	108	26.950	30.869	47.320	1.00 31.39	N
ATOM	747	CA	MET	A	108	25.939	31.482	48.186	1.00 32.74	C
ATOM	748	C	MET	A	108	26.468	32.050	49.514	1.00 33.50	C
ATOM	749	O	MET	A	108	25.987	33.082	49.988	1.00 33.27	O
ATOM	750	CB	MET	A	108	24.787	30.509	48.417	1.00 33.11	C
ATOM	751	CG	MET	A	108	23.976	30.300	47.127	1.00 34.43	C
ATOM	752	SD	MET	A	108	22.458	29.330	47.263	1.00 37.47	S
ATOM	753	CE	MET	A	108	21.487	30.326	48.417	1.00 37.24	C
ATOM	754	N	ALA	A	109	27.484	31.427	50.090	1.00 34.73	N
ATOM	755	CA	ALA	A	109	28.039	31.922	51.359	1.00 36.13	C
ATOM	756	C	ALA	A	109	28.555	33.361	51.266	1.00 37.12	C
ATOM	757	O	ALA	A	109	28.455	34.127	52.213	1.00 37.35	O
ATOM	758	CB	ALA	A	109	29.147	30.991	51.860	1.00 35.96	C
ATOM	759	N	ASN	A	110	29.076	33.745	50.112	1.00 38.70	N
ATOM	760	CA	ASN	A	110	29.631	35.090	49.949	1.00 39.61	C
ATOM	761	C	ASN	A	110	28.605	36.188	49.621	1.00 39.61	C
ATOM	762	O	ASN	A	110	28.950	37.359	49.500	1.00 39.50	O
ATOM	763	CB	ASN	A	110	30.730	35.036	48.888	1.00 39.94	C
ATOM	764	CG	ASN	A	110	31.916	34.186	49.329	1.00 41.54	C
ATOM	765	OD1	ASN	A	110	32.341	34.223	50.503	1.00 41.36	O
ATOM	766	ND2	ASN	A	110	32.451	33.406	48.399	1.00 43.06	N
ATOM	767	N	PHE	A	111	27.349	35.802	49.465	1.00 40.12	N
ATOM	768	CA	PHE	A	111	26.278	36.753	49.208	1.00 40.43	C
ATOM	769	C	PHE	A	111	25.064	36.292	50.016	1.00 41.38	C
ATOM	770	O	PHE	A	111	24.068	35.811	49.471	1.00 40.89	O
ATOM	771	CB	PHE	A	111	25.954	36.839	47.710	1.00 40.30	C
ATOM	772	CG	PHE	A	111	26.973	37.597	46.910	1.00 38.60	C
ATOM	773	CD1	PHE	A	111	28.199	37.033	46.618	1.00 37.50	C
ATOM	774	CD2	PHE	A	111	26.705	38.867	46.445	1.00 38.02	C
ATOM	775	CE1	PHE	A	111	29.140	37.725	45.890	1.00 36.74	C
ATOM	776	CE2	PHE	A	111	27.649	39.560	45.705	1.00 36.60	C
ATOM	777	CZ	PHE	A	111	28.863	38.986	45.433	1.00 35.45	C
ATOM	778	N	GLN	A	112	25.175	36.457	51.329	1.00 42.72	N
ATOM	779	CA	GLN	A	112	24.154	36.022	52.276	1.00 43.86	C
ATOM	780	C	GLN	A	112	22.790	36.598	51.948	1.00 44.00	C
ATOM	781	O	GLN	A	112	21.774	35.994	52.280	1.00 44.39	O
ATOM	782	CB	GLN	A	112	24.535	36.428	53.706	1.00 44.29	C
ATOM	783	CG	GLN	A	112	25.923	35.985	54.166	1.00 46.45	C

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ATOM    784  CD  GLN A 112      26.050  34.477  54.296  1.00 49.14           C
ATOM    785  OE1 GLN A 112      25.523  33.733  53.466  1.00 50.83           O
ATOM    786  NE2 GLN A 112      26.756  34.022  55.332  1.00 50.52           N
ATOM    787  N   ASN A 113      22.765  37.759  51.299  1.00 43.96           N
ATOM    788  CA  ASN A 113      21.504  38.416  50.971  1.00 44.15           C
ATOM    789  C   ASN A 113      20.827  37.921  49.679  1.00 44.12           C
ATOM    790  O   ASN A 113      19.768  38.431  49.309  1.00 44.11           O
ATOM    791  CB  ASN A 113      21.696  39.941  50.918  1.00 44.21           C
ATOM    792  CG  ASN A 113      22.084  40.541  52.283  1.00 44.80           C
ATOM    793  OD1 ASN A 113      21.759  39.991  53.349  1.00 43.65           O
ATOM    794  ND2 ASN A 113      22.778  41.675  52.246  1.00 44.92           N
ATOM    795  N   PHE A 114      21.415  36.939  48.995  1.00 43.98           N
ATOM    796  CA  PHE A 114      20.793  36.411  47.787  1.00 43.71           C
ATOM    797  C   PHE A 114      19.778  35.345  48.150  1.00 43.76           C
ATOM    798  O   PHE A 114      20.111  34.362  48.815  1.00 43.32           O
ATOM    799  CB  PHE A 114      21.813  35.808  46.833  1.00 43.82           C
ATOM    800  CG  PHE A 114      21.184  35.128  45.650  1.00 43.80           C
ATOM    801  CD1 PHE A 114      20.567  35.881  44.661  1.00 43.54           C
ATOM    802  CD2 PHE A 114      21.170  33.745  45.541  1.00 43.65           C
ATOM    803  CE1 PHE A 114      19.963  35.276  43.587  1.00 43.55           C
ATOM    804  CE2 PHE A 114      20.566  33.129  44.451  1.00 43.21           C
ATOM    805  CZ  PHE A 114      19.961  33.897  43.476  1.00 42.89           C
ATOM    806  N   LYS A 115      18.543  35.543  47.705  1.00 43.96           N
ATOM    807  CA  LYS A 115      17.459  34.613  47.999  1.00 44.38           C
ATOM    808  C   LYS A 115      16.933  34.026  46.693  1.00 44.04           C
ATOM    809  O   LYS A 115      16.213  34.687  45.945  1.00 43.97           O
ATOM    810  CB  LYS A 115      16.342  35.329  48.761  1.00 44.79           C
ATOM    811  CG  LYS A 115      16.763  35.866  50.129  1.00 46.74           C
ATOM    812  CD  LYS A 115      17.021  34.744  51.130  1.00 48.83           C
ATOM    813  CE  LYS A 115      17.461  35.288  52.484  1.00 50.18           C
ATOM    814  NZ  LYS A 115      17.498  34.224  53.539  1.00 51.05           N
ATOM    815  N   PRO A 116      17.270  32.771  46.433  1.00 43.65           N
ATOM    816  CA  PRO A 116      16.918  32.133  45.160  1.00 43.43           C
ATOM    817  C   PRO A 116      15.415  32.034  44.969  1.00 42.76           C
ATOM    818  O   PRO A 116      14.711  31.724  45.915  1.00 42.78           O
ATOM    819  CB  PRO A 116      17.525  30.732  45.273  1.00 43.57           C
ATOM    820  CG  PRO A 116      18.385  30.743  46.496  1.00 43.88           C
ATOM    821  CD  PRO A 116      17.948  31.855  47.359  1.00 43.68           C
ATOM    822  N   ARG A 117      14.940  32.306  43.761  1.00 42.20           N
ATOM    823  CA  ARG A 117      13.518  32.214  43.451  1.00 41.56           C
ATOM    824  C   ARG A 117      13.140  30.780  43.104  1.00 41.00           C
ATOM    825  O   ARG A 117      11.957  30.461  43.007  1.00 41.15           O
ATOM    826  CB  ARG A 117      13.164  33.132  42.311  1.00 41.47           C
ATOM    827  N   SER A 118      14.139  29.925  42.904  1.00 40.00           N
ATOM    828  CA  SER A 118      13.882  28.517  42.654  1.00 39.60           C
ATOM    829  C   SER A 118      14.700  27.655  43.621  1.00 39.30           C
ATOM    830  O   SER A 118      15.756  28.078  44.087  1.00 39.24           O
ATOM    831  CB  SER A 118      14.184  28.158  41.196  1.00 39.30           C
ATOM    832  OG  SER A 118      15.560  28.228  40.942  1.00 38.53           O
ATOM    833  N   ASN A 119      14.180  26.471  43.943  1.00 38.96           N
ATOM    834  CA  ASN A 119      14.838  25.537  44.854  1.00 38.95           C
ATOM    835  C   ASN A 119      15.115  24.215  44.160  1.00 37.99           C
ATOM    836  O   ASN A 119      14.314  23.751  43.359  1.00 37.35           O
ATOM    837  CB  ASN A 119      13.958  25.220  46.068  1.00 39.54           C
ATOM    838  CG  ASN A 119      13.466  26.456  46.797  1.00 41.82           C
ATOM    839  OD1 ASN A 119      14.255  27.279  47.289  1.00 44.50           O
ATOM    840  ND2 ASN A 119      12.145  26.574  46.906  1.00 44.99           N
ATOM    841  N   ARG A 120      16.243  23.607  44.492  1.00 37.46           N
ATOM    842  CA  ARG A 120      16.627  22.325  43.927  1.00 37.15           C
ATOM    843  C   ARG A 120      16.209  21.193  44.844  1.00 37.03           C
ATOM    844  O   ARG A 120      16.359  21.272  46.069  1.00 37.28           O
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ATOM    845  CB  ARG A 120      18.144  22.264  43.730  1.00 37.07           C
ATOM    846  CG  ARG A 120      18.632  21.020  42.993  1.00 36.32           C
ATOM    847  CD  ARG A 120      20.152  20.886  42.938  1.00 35.46           C
ATOM    848  NE  ARG A 120      20.777  21.277  44.198  1.00 34.29           N
ATOM    849  CZ  ARG A 120      21.049  20.445  45.202  1.00 36.66           C
ATOM    850  NH1 ARG A 120      20.753  19.147  45.122  1.00 35.60           N
ATOM    851  NH2 ARG A 120      21.614  20.915  46.305  1.00 37.13           N
ATOM    852  N   GLU A 121      15.665  20.141  44.250  1.00 36.76           N
ATOM    853  CA  GLU A 121      15.326  18.944  44.993  1.00 36.29           C
ATOM    854  C   GLU A 121      15.810  17.746  44.187  1.00 35.35           C
ATOM    855  O   GLU A 121      15.709  17.726  42.953  1.00 35.38           O
ATOM    856  CB  GLU A 121      13.820  18.863  45.262  1.00 36.78           C
ATOM    857  CG  GLU A 121      13.398  17.585  45.971  1.00 39.29           C
ATOM    858  CD  GLU A 121      12.126  17.732  46.795  1.00 42.09           C
ATOM    859  OE1 GLU A 121      12.200  18.310  47.904  1.00 45.56           O
ATOM    860  OE2 GLU A 121      11.059  17.254  46.350  1.00 43.04           O
ATOM    861  N   GLU A 122      16.366  16.764  44.886  1.00 34.04           N
ATOM    862  CA  GLU A 122      16.840  15.547  44.266  1.00 33.04           C
ATOM    863  C   GLU A 122      15.748  14.518  44.415  1.00 32.55           C
ATOM    864  O   GLU A 122      15.253  14.306  45.511  1.00 32.52           O
ATOM    865  CB  GLU A 122      18.103  15.052  44.961  1.00 32.71           C
ATOM    866  CG  GLU A 122      19.265  16.018  44.885  1.00 31.86           C
ATOM    867  CD  GLU A 122      19.705  16.296  43.454  1.00 31.04           C
ATOM    868  OE1 GLU A 122      20.065  15.331  42.757  1.00 29.68           O
ATOM    869  OE2 GLU A 122      19.694  17.479  43.025  1.00 29.20           O
ATOM    870  N   MET A 123      15.349  13.885  43.321  1.00 31.83           N
ATOM    871  CA  MET A 123      14.329  12.858  43.415  1.00 31.40           C
ATOM    872  C   MET A 123      14.532  11.820  42.343  1.00 30.68           C
ATOM    873  O   MET A 123      15.380  11.982  41.457  1.00 30.07           O
ATOM    874  CB  MET A 123      12.931  13.466  43.309  1.00 31.52           C
ATOM    875  CG  MET A 123      12.667  14.205  42.032  1.00 32.93           C
ATOM    876  SD  MET A 123      11.115  15.145  42.034  1.00 35.27           S
ATOM    877  CE  MET A 123      11.554  16.565  42.966  1.00 35.33           C
ATOM    878  N   LYS A 124      13.766  10.738  42.464  1.00 29.85           N
ATOM    879  CA  LYS A 124      13.752   9.671  41.483  1.00 29.22           C
ATOM    880  C   LYS A 124      12.891  10.140  40.307  1.00 28.45           C
ATOM    881  O   LYS A 124      12.066  11.039  40.466  1.00 27.39           O
ATOM    882  CB  LYS A 124      13.183   8.389  42.100  1.00 29.57           C
ATOM    883  CG  LYS A 124      13.954   7.857  43.321  1.00 29.88           C
ATOM    884  CD  LYS A 124      15.392   7.501  42.950  1.00 30.48           C
ATOM    885  CE  LYS A 124      16.231   7.129  44.167  1.00 30.33           C
ATOM    886  NZ  LYS A 124      17.691   7.276  43.872  1.00 30.47           N
ATOM    887  N   PHE A 125      13.075   9.536  39.133  1.00 27.71           N
ATOM    888  CA  PHE A 125      12.364  10.000  37.949  1.00 27.22           C
ATOM    889  C   PHE A 125      10.869   9.891  38.114  1.00 27.29           C
ATOM    890  O   PHE A 125      10.138  10.825  37.801  1.00 26.75           O
ATOM    891  CB  PHE A 125      12.794   9.270  36.681  1.00 26.90           C
ATOM    892  CG  PHE A 125      12.494  10.051  35.433  1.00 27.63           C
ATOM    893  CD1 PHE A 125      13.330  11.083  35.032  1.00 27.70           C
ATOM    894  CD2 PHE A 125      11.351   9.802  34.702  1.00 28.29           C
ATOM    895  CE1 PHE A 125      13.059  11.828  33.905  1.00 27.96           C
ATOM    896  CE2 PHE A 125      11.065  10.540  33.563  1.00 29.16           C
ATOM    897  CZ  PHE A 125      11.924  11.568  33.167  1.00 28.71           C
ATOM    898  N   HIS A 126      10.426   8.743  38.620  1.00 27.46           N
ATOM    899  CA  HIS A 126       9.013   8.499  38.832  1.00 27.77           C
ATOM    900  C   HIS A 126       8.430   9.522  39.794  1.00 27.71           C
ATOM    901  O   HIS A 126       7.245   9.821  39.731  1.00 27.27           O
ATOM    902  CB  HIS A 126       8.770   7.056  39.329  1.00 27.96           C
ATOM    903  CG  HIS A 126       8.897   6.880  40.812  1.00 28.47           C
ATOM    904  ND1 HIS A 126       7.831   7.026  41.672  1.00 29.29           N
ATOM    905  CD2 HIS A 126       9.961   6.552  41.585  1.00 29.43           C
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ATOM	906	CE1	HIS	A	126	8.236	6.812	42.912	1.00 30.26	C
ATOM	907	NE2	HIS	A	126	9.525	6.524	42.887	1.00 29.64	N
ATOM	908	N	GLU	A	127	9.262	10.059	40.679	1.00 28.09	N
ATOM	909	CA	GLU	A	127	8.803	11.078	41.615	1.00 28.68	C
ATOM	910	C	GLU	A	127	8.585	12.400	40.865	1.00 28.99	C
ATOM	911	O	GLU	A	127	7.626	13.129	41.123	1.00 29.15	O
ATOM	912	CB	GLU	A	127	9.795	11.233	42.775	1.00 28.52	C
ATOM	913	CG	GLU	A	127	9.931	9.968	43.626	1.00 29.84	C
ATOM	914	CD	GLU	A	127	10.873	10.121	44.810	1.00 30.26	C
ATOM	915	OE1	GLU	A	127	12.069	10.398	44.603	1.00 29.68	O
ATOM	916	OE2	GLU	A	127	10.410	9.943	45.962	1.00 32.95	O
ATOM	917	N	PHE	A	128	9.471	12.696	39.927	1.00 29.39	N
ATOM	918	CA	PHE	A	128	9.354	13.914	39.119	1.00 29.64	C
ATOM	919	C	PHE	A	128	8.047	13.859	38.333	1.00 30.31	C
ATOM	920	O	PHE	A	128	7.274	14.817	38.294	1.00 29.97	O
ATOM	921	CB	PHE	A	128	10.551	14.017	38.167	1.00 29.10	C
ATOM	922	CG	PHE	A	128	10.337	14.950	36.991	1.00 28.33	C
ATOM	923	CD1	PHE	A	128	10.106	16.301	37.188	1.00 26.53	C
ATOM	924	CD2	PHE	A	128	10.397	14.475	35.696	1.00 26.99	C
ATOM	925	CE1	PHE	A	128	9.920	17.149	36.120	1.00 27.50	C
ATOM	926	CE2	PHE	A	128	10.217	15.341	34.610	1.00 28.49	C
ATOM	927	CZ	PHE	A	128	9.976	16.668	34.823	1.00 26.78	C
ATOM	928	N	VAL	A	129	7.797	12.705	37.736	1.00 31.32	N
ATOM	929	CA	VAL	A	129	6.603	12.499	36.930	1.00 32.38	C
ATOM	930	C	VAL	A	129	5.338	12.658	37.775	1.00 32.96	C
ATOM	931	O	VAL	A	129	4.398	13.362	37.388	1.00 32.79	O
ATOM	932	CB	VAL	A	129	6.606	11.094	36.313	1.00 32.48	C
ATOM	933	CG1	VAL	A	129	5.313	10.840	35.551	1.00 32.96	C
ATOM	934	CG2	VAL	A	129	7.828	10.901	35.417	1.00 31.98	C
ATOM	935	N	GLU	A	130	5.329	11.993	38.925	1.00 33.61	N
ATOM	936	CA	GLU	A	130	4.205	12.067	39.853	1.00 34.29	C
ATOM	937	C	GLU	A	130	3.963	13.515	40.246	1.00 34.51	C
ATOM	938	O	GLU	A	130	2.832	13.986	40.220	1.00 33.80	O
ATOM	939	CB	GLU	A	130	4.481	11.206	41.087	1.00 34.35	C
ATOM	940	CG	GLU	A	130	4.372	9.711	40.815	1.00 34.92	C
ATOM	941	CD	GLU	A	130	5.204	8.858	41.761	1.00 35.66	C
ATOM	942	OE1	GLU	A	130	5.595	9.345	42.845	1.00 36.55	O
ATOM	943	OE2	GLU	A	130	5.477	7.692	41.407	1.00 36.06	O
ATOM	944	N	LYS	A	131	5.033	14.223	40.587	1.00 35.27	N
ATOM	945	CA	LYS	A	131	4.912	15.632	40.920	1.00 36.15	C
ATOM	946	C	LYS	A	131	4.286	16.408	39.758	1.00 36.63	C
ATOM	947	O	LYS	A	131	3.420	17.253	39.972	1.00 36.42	O
ATOM	948	CB	LYS	A	131	6.269	16.240	41.261	1.00 36.51	C
ATOM	949	CG	LYS	A	131	6.467	16.623	42.712	1.00 37.67	C
ATOM	950	CD	LYS	A	131	7.125	18.001	42.822	1.00 38.95	C
ATOM	951	CE	LYS	A	131	7.581	18.324	44.252	1.00 40.39	C
ATOM	952	NZ	LYS	A	131	8.073	19.747	44.404	1.00 40.82	N
ATOM	953	N	LEU	A	132	4.725	16.142	38.532	1.00 37.30	N
ATOM	954	CA	LEU	A	132	4.156	16.845	37.383	1.00 38.29	C
ATOM	955	C	LEU	A	132	2.669	16.557	37.280	1.00 38.83	C
ATOM	956	O	LEU	A	132	1.875	17.449	36.976	1.00 38.56	O
ATOM	957	CB	LEU	A	132	4.819	16.424	36.081	1.00 38.42	C
ATOM	958	CG	LEU	A	132	6.224	16.916	35.791	1.00 39.15	C
ATOM	959	CD1	LEU	A	132	6.671	16.296	34.485	1.00 39.76	C
ATOM	960	CD2	LEU	A	132	6.281	18.433	35.712	1.00 39.81	C
ATOM	961	N	GLN	A	133	2.311	15.300	37.529	1.00 39.68	N
ATOM	962	CA	GLN	A	133	0.920	14.863	37.495	1.00 40.45	C
ATOM	963	C	GLN	A	133	0.057	15.580	38.541	1.00 41.05	C
ATOM	964	O	GLN	A	133	-1.035	16.040	38.222	1.00 41.20	O
ATOM	965	CB	GLN	A	133	0.835	13.344	37.681	1.00 40.31	C
ATOM	966	N	ASP	A	134	0.542	15.682	39.777	1.00 41.89	N

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ATOM    967  CA  ASP A 134      -0.232  16.313  40.854  1.00 42.72           C
ATOM    968  C   ASP A 134      -0.506  17.792  40.576  1.00 42.60           C
ATOM    969  O   ASP A 134      -1.570  18.316  40.900  1.00 42.25           O
ATOM    970  CB  ASP A 134       0.491  16.169  42.200  1.00 43.21           C
ATOM    971  CG  ASP A 134      -0.429  16.419  43.396  1.00 45.71           C
ATOM    972  OD1 ASP A 134      -1.566  16.916  43.213  1.00 48.39           O
ATOM    973  OD2 ASP A 134      -0.104  16.131  44.571  1.00 49.60           O
ATOM    974  N   ILE A 135       0.467  18.467  39.981  1.00 42.77           N
ATOM    975  CA  ILE A 135       0.306  19.872  39.660  1.00 42.91           C
ATOM    976  C   ILE A 135      -0.793  20.050  38.626  1.00 43.15           C
ATOM    977  O   ILE A 135      -1.690  20.871  38.800  1.00 43.03           O
ATOM    978  CB  ILE A 135       1.623  20.443  39.155  1.00 42.94           C
ATOM    979  CG1 ILE A 135       2.586  20.607  40.330  1.00 43.10           C
ATOM    980  CG2 ILE A 135       1.396  21.778  38.473  1.00 42.80           C
ATOM    981  CD1 ILE A 135       4.040  20.621  39.934  1.00 43.49           C
ATOM    982  N   GLN A 136      -0.716  19.272  37.554  1.00 43.64           N
ATOM    983  CA  GLN A 136      -1.712  19.321  36.496  1.00 44.17           C
ATOM    984  C   GLN A 136      -3.103  19.129  37.081  1.00 44.65           C
ATOM    985  O   GLN A 136      -3.976  19.984  36.936  1.00 44.71           O
ATOM    986  CB  GLN A 136      -1.431  18.240  35.466  1.00 44.19           C
ATOM    987  N   GLN A 137      -3.289  18.014  37.776  1.00 45.23           N
ATOM    988  CA  GLN A 137      -4.596  17.654  38.314  1.00 45.66           C
ATOM    989  C   GLN A 137      -5.146  18.696  39.277  1.00 45.88           C
ATOM    990  O   GLN A 137      -6.337  19.005  39.238  1.00 46.33           O
ATOM    991  CB  GLN A 137      -4.535  16.277  38.991  1.00 45.74           C
ATOM    992  N   ARG A 138      -4.288  19.246  40.131  1.00 45.93           N
ATOM    993  CA  ARG A 138      -4.740  20.211  41.132  1.00 45.84           C
ATOM    994  C   ARG A 138      -4.720  21.640  40.592  1.00 45.53           C
ATOM    995  O   ARG A 138      -4.911  22.598  41.344  1.00 45.72           O
ATOM    996  CB  ARG A 138      -3.880  20.108  42.398  1.00 45.92           C
ATOM    997  CG  ARG A 138      -2.551  20.866  42.340  1.00 46.84           C
ATOM    998  CD  ARG A 138      -1.589  20.458  43.437  1.00 47.70           C
ATOM    999  NE  ARG A 138      -0.509  21.418  43.652  1.00 47.78           N
ATOM   1000  CZ  ARG A 138       0.788  21.125  43.578  1.00 49.17           C
ATOM   1001  NH1 ARG A 138       1.186  19.897  43.274  1.00 50.12           N
ATOM   1002  NH2 ARG A 138       1.702  22.064  43.798  1.00 49.52           N
ATOM   1003  N   GLY A 139      -4.492  21.783  39.290  1.00 44.99           N
ATOM   1004  CA  GLY A 139      -4.419  23.094  38.669  1.00 44.52           C
ATOM   1005  C   GLY A 139      -3.412  24.041  39.310  1.00 44.06           C
ATOM   1006  O   GLY A 139      -3.551  25.259  39.203  1.00 44.28           O
ATOM   1007  N   GLY A 140      -2.382  23.495  39.953  1.00 43.28           N
ATOM   1008  CA  GLY A 140      -1.388  24.309  40.629  1.00 42.49           C
ATOM   1009  C   GLY A 140      -0.609  25.218  39.694  1.00 41.92           C
ATOM   1010  O   GLY A 140      -0.556  24.989  38.480  1.00 41.85           O
ATOM   1011  N   GLU A 141      -0.004  26.264  40.250  1.00 40.90           N
ATOM   1012  CA  GLU A 141       0.789  27.186  39.444  1.00 40.07           C
ATOM   1013  C   GLU A 141       2.286  26.884  39.549  1.00 38.68           C
ATOM   1014  O   GLU A 141       3.096  27.503  38.867  1.00 38.67           O
ATOM   1015  CB  GLU A 141       0.513  28.644  39.839  1.00 40.36           C
ATOM   1016  CG  GLU A 141      -0.799  29.224  39.309  1.00 41.91           C
ATOM   1017  CD  GLU A 141      -1.001  29.042  37.805  1.00 44.25           C
ATOM   1018  OE1 GLU A 141       0.004  29.008  37.043  1.00 45.69           O
ATOM   1019  OE2 GLU A 141      -2.181  28.940  37.380  1.00 44.55           O
ATOM   1020  N   GLU A 142       2.648  25.944  40.413  1.00 37.02           N
ATOM   1021  CA  GLU A 142       4.040  25.573  40.596  1.00 35.61           C
ATOM   1022  C   GLU A 142       4.629  25.120  39.265  1.00 34.41           C
ATOM   1023  O   GLU A 142       3.923  24.594  38.408  1.00 34.25           O
ATOM   1024  CB  GLU A 142       4.150  24.443  41.627  1.00 35.49           C
ATOM   1025  CG  GLU A 142       5.571  24.173  42.095  1.00 35.47           C
ATOM   1026  CD  GLU A 142       5.710  22.944  42.978  1.00 36.48           C
ATOM   1027  OE1 GLU A 142       4.733  22.174  43.142  1.00 37.45           O
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ATOM   1028  OE2 GLU A 142       6.821  22.739  43.511  1.00 36.76           O
ATOM   1029  N   ARG A 143       5.926  25.323  39.096  1.00 32.91           N
ATOM   1030  CA  ARG A 143       6.596  24.893  37.884  1.00 31.95           C
ATOM   1031  C   ARG A 143       7.803  24.058  38.214  1.00 30.62           C
ATOM   1032  O   ARG A 143       8.514  24.354  39.166  1.00 30.75           O
ATOM   1033  CB  ARG A 143       7.072  26.097  37.082  1.00 32.19           C
ATOM   1034  CG  ARG A 143       5.968  26.912  36.447  1.00 32.57           C
ATOM   1035  CD  ARG A 143       6.507  28.170  35.801  1.00 32.53           C
ATOM   1036  NE  ARG A 143       5.492  28.885  35.037  1.00 32.25           N
ATOM   1037  CZ  ARG A 143       5.158  28.617  33.790  1.00 31.80           C
ATOM   1038  NH1 ARG A 143       5.757  27.637  33.105  1.00 31.28           N
ATOM   1039  NH2 ARG A 143       4.214  29.345  33.221  1.00 32.77           N
ATOM   1040  N   LEU A 144       8.054  23.028  37.417  1.00 28.97           N
ATOM   1041  CA  LEU A 144       9.235  22.219  37.617  1.00 28.09           C
ATOM   1042  C   LEU A 144      10.150  22.257  36.398  1.00 27.14           C
ATOM   1043  O   LEU A 144       9.690  22.418  35.272  1.00 26.74           O
ATOM   1044  CB  LEU A 144       8.834  20.783  37.887  1.00 28.28           C
ATOM   1045  CG  LEU A 144       7.839  20.606  39.038  1.00 28.89           C
ATOM   1046  CD1 LEU A 144       7.515  19.123  39.216  1.00 29.62           C
ATOM   1047  CD2 LEU A 144       8.364  21.212  40.333  1.00 27.84           C
ATOM   1048  N   TYR A 145      11.447  22.102  36.636  1.00 25.69           N
ATOM   1049  CA  TYR A 145      12.395  21.976  35.548  1.00 25.05           C
ATOM   1050  C   TYR A 145      13.459  20.957  35.968  1.00 25.00           C
ATOM   1051  O   TYR A 145      14.239  21.193  36.881  1.00 25.01           O
ATOM   1052  CB  TYR A 145      13.022  23.327  35.183  1.00 24.76           C
ATOM   1053  CG  TYR A 145      13.471  23.485  33.728  1.00 23.25           C
ATOM   1054  CD1 TYR A 145      13.739  22.385  32.931  1.00 21.70           C
ATOM   1055  CD2 TYR A 145      13.667  24.746  33.175  1.00 22.16           C
ATOM   1056  CE1 TYR A 145      14.154  22.526  31.620  1.00 20.98           C
ATOM   1057  CE2 TYR A 145      14.097  24.904  31.846  1.00 21.30           C
ATOM   1058  CZ  TYR A 145      14.332  23.799  31.071  1.00 20.66           C
ATOM   1059  OH  TYR A 145      14.737  23.933  29.740  1.00 18.41           O
ATOM   1060  N   LEU A 146      13.446  19.808  35.318  1.00 24.95           N
ATOM   1061  CA  LEU A 146      14.453  18.787  35.547  1.00 25.43           C
ATOM   1062  C   LEU A 146      15.678  19.100  34.694  1.00 24.91           C
ATOM   1063  O   LEU A 146      15.555  19.313  33.493  1.00 24.10           O
ATOM   1064  CB  LEU A 146      13.907  17.419  35.162  1.00 25.59           C
ATOM   1065  CG  LEU A 146      14.875  16.238  35.334  1.00 27.52           C
ATOM   1066  CD1 LEU A 146      14.111  14.966  35.672  1.00 26.95           C
ATOM   1067  CD2 LEU A 146      15.742  16.023  34.084  1.00 29.46           C
ATOM   1068  N   GLN A 147      16.845  19.097  35.330  1.00 24.91           N
ATOM   1069  CA  GLN A 147      18.115  19.394  34.685  1.00 25.27           C
ATOM   1070  C   GLN A 147      19.146  18.490  35.317  1.00 25.28           C
ATOM   1071  O   GLN A 147      19.610  18.740  36.419  1.00 27.14           O
ATOM   1072  CB  GLN A 147      18.475  20.876  34.863  1.00 25.02           C
ATOM   1073  CG  GLN A 147      17.321  21.804  34.485  1.00 24.97           C
ATOM   1074  CD  GLN A 147      17.682  23.283  34.560  1.00 27.08           C
ATOM   1075  OE1 GLN A 147      16.891  24.149  34.141  1.00 27.93           O
ATOM   1076  NE2 GLN A 147      18.860  23.575  35.064  1.00 23.50           N
ATOM   1077  N   GLN A 148      19.487  17.428  34.611  1.00 25.47           N
ATOM   1078  CA  GLN A 148      20.319  16.365  35.146  1.00 25.45           C
ATOM   1079  C   GLN A 148      21.254  15.816  34.105  1.00 25.50           C
ATOM   1080  O   GLN A 148      20.862  15.485  32.992  1.00 25.04           O
ATOM   1081  CB  GLN A 148      19.436  15.231  35.640  1.00 25.37           C
ATOM   1082  CG  GLN A 148      20.201  14.021  36.167  1.00 26.15           C
ATOM   1083  CD  GLN A 148      21.129  14.383  37.314  1.00 26.56           C
ATOM   1084  OE1 GLN A 148      20.718  15.093  38.240  1.00 23.94           O
ATOM   1085  NE2 GLN A 148      22.383  13.916  37.248  1.00 25.29           N
ATOM   1086  N   THR A 149      22.510  15.769  34.482  1.00 25.86           N
ATOM   1087  CA  THR A 149      23.552  15.219  33.667  1.00 27.04           C
ATOM   1088  C   THR A 149      23.298  13.720  33.527  1.00 27.25           C
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ATOM   1089  O   THR A 149      23.012  13.044  34.508  1.00 26.86           O
ATOM   1090  CB  THR A 149      24.903  15.540  34.375  1.00 27.42           C
ATOM   1091  OG1 THR A 149      25.300  16.882  34.020  1.00 29.80           O
ATOM   1092  CG2 THR A 149      26.034  14.702  33.873  1.00 28.98           C
ATOM   1093  N   LEU A 150      23.338  13.224  32.298  1.00 27.70           N
ATOM   1094  CA  LEU A 150      23.195  11.812  32.027  1.00 28.46           C
ATOM   1095  C   LEU A 150      24.429  11.076  32.573  1.00 28.97           C
ATOM   1096  O   LEU A 150      25.548  11.468  32.268  1.00 29.00           O
ATOM   1097  CB  LEU A 150      23.084  11.580  30.524  1.00 28.34           C
ATOM   1098  CG  LEU A 150      21.780  11.981  29.837  1.00 29.63           C
ATOM   1099  CD1 LEU A 150      21.944  11.862  28.328  1.00 30.03           C
ATOM   1100  CD2 LEU A 150      20.619  11.140  30.310  1.00 31.15           C
ATOM   1101  N   ASN A 151      24.230  10.030  33.378  1.00 29.35           N
ATOM   1102  CA  ASN A 151      25.348   9.258  33.949  1.00 29.51           C
ATOM   1103  C   ASN A 151      25.137   7.732  33.934  1.00 29.92           C
ATOM   1104  O   ASN A 151      24.162   7.241  33.348  1.00 29.73           O
ATOM   1105  CB  ASN A 151      25.590   9.710  35.385  1.00 29.78           C
ATOM   1106  CG  ASN A 151      24.362   9.553  36.241  1.00 29.19           C
ATOM   1107  OD1 ASN A 151      23.735   8.497  36.260  1.00 30.09           O
ATOM   1108  ND2 ASN A 151      23.991  10.611  36.930  1.00 29.31           N
ATOM   1109  N   ASP A 152      26.020   6.999  34.627  1.00 30.27           N
ATOM   1110  CA  ASP A 152      26.034   5.514  34.649  1.00 30.85           C
ATOM   1111  C   ASP A 152      24.830   4.797  35.212  1.00 30.51           C
ATOM   1112  O   ASP A 152      24.779   3.562  35.137  1.00 30.29           O
ATOM   1113  CB  ASP A 152      27.178   4.965  35.519  1.00 31.48           C
ATOM   1114  CG  ASP A 152      28.384   5.812  35.493  1.00 34.64           C
ATOM   1115  OD1 ASP A 152      28.588   6.523  34.482  1.00 41.71           O
ATOM   1116  OD2 ASP A 152      29.177   5.857  36.437  1.00 37.31           O
ATOM   1117  N   THR A 153      23.894   5.501  35.833  1.00 30.21           N
ATOM   1118  CA  THR A 153      22.767   4.785  36.432  1.00 30.13           C
ATOM   1119  C   THR A 153      21.612   4.626  35.463  1.00 29.54           C
ATOM   1120  O   THR A 153      20.639   3.970  35.778  1.00 29.38           O
ATOM   1121  CB  THR A 153      22.277   5.481  37.704  1.00 30.37           C
ATOM   1122  OG1 THR A 153      21.735   6.770  37.373  1.00 31.06           O
ATOM   1123  CG2 THR A 153      23.452   5.763  38.658  1.00 30.56           C
ATOM   1124  N   VAL A 154      21.703   5.213  34.280  1.00 29.07           N
ATOM   1125  CA  VAL A 154      20.596   5.082  33.346  1.00 28.90           C
ATOM   1126  C   VAL A 154      20.488   3.613  32.968  1.00 28.83           C
ATOM   1127  O   VAL A 154      21.486   2.898  33.002  1.00 28.78           O
ATOM   1128  CB  VAL A 154      20.762   5.952  32.088  1.00 28.61           C
ATOM   1129  CG1 VAL A 154      20.808   7.410  32.462  1.00 29.14           C
ATOM   1130  CG2 VAL A 154      21.999   5.547  31.305  1.00 28.52           C
ATOM   1131  N   GLY A 155      19.283   3.170  32.615  1.00 28.74           N
ATOM   1132  CA  GLY A 155      19.043   1.780  32.263  1.00 28.33           C
ATOM   1133  C   GLY A 155      19.484   1.387  30.860  1.00 28.70           C
ATOM   1134  O   GLY A 155      19.862   2.235  30.031  1.00 28.27           O
ATOM   1135  N   ARG A 156      19.384   0.088  30.591  1.00 28.47           N
ATOM   1136  CA  ARG A 156      19.857  -0.519  29.349  1.00 28.54           C
ATOM   1137  C   ARG A 156      19.291   0.096  28.084  1.00 28.18           C
ATOM   1138  O   ARG A 156      20.029   0.346  27.143  1.00 28.69           O
ATOM   1139  CB  ARG A 156      19.582  -2.019  29.362  1.00 28.58           C
ATOM   1140  N   LYS A 157      17.986   0.304  28.042  1.00 27.53           N
ATOM   1141  CA  LYS A 157      17.390   0.888  26.860  1.00 27.32           C
ATOM   1142  C   LYS A 157      17.947   2.306  26.625  1.00 27.10           C
ATOM   1143  O   LYS A 157      18.213   2.672  25.490  1.00 26.76           O
ATOM   1144  CB  LYS A 157      15.858   0.902  26.960  1.00 27.68           C
ATOM   1145  CG  LYS A 157      15.171  -0.451  26.656  1.00 26.26           C
ATOM   1146  N   ILE A 158      18.138   3.086  27.688  1.00 26.68           N
ATOM   1147  CA  ILE A 158      18.665   4.450  27.543  1.00 26.67           C
ATOM   1148  C   ILE A 158      20.107   4.368  27.100  1.00 26.53           C
ATOM   1149  O   ILE A 158      20.558   5.170  26.285  1.00 25.74           O
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ATOM	1150	CB	ILE	A	158	18.570	5.245	28.837	1.00 26.51	C
ATOM	1151	CG1	ILE	A	158	17.114	5.399	29.269	1.00 27.11	C
ATOM	1152	CG2	ILE	A	158	19.208	6.618	28.667	1.00 27.55	C
ATOM	1153	CD1	ILE	A	158	16.232	6.028	28.260	1.00 28.98	C
ATOM	1154	N	VAL	A	159	20.817	3.378	27.629	1.00 26.46	N
ATOM	1155	CA	VAL	A	159	22.187	3.125	27.226	1.00 26.70	C
ATOM	1156	C	VAL	A	159	22.191	2.813	25.728	1.00 26.30	C
ATOM	1157	O	VAL	A	159	23.022	3.332	24.999	1.00 25.90	O
ATOM	1158	CB	VAL	A	159	22.819	1.963	28.018	1.00 27.18	C
ATOM	1159	CG1	VAL	A	159	24.045	1.436	27.311	1.00 28.12	C
ATOM	1160	CG2	VAL	A	159	23.180	2.410	29.427	1.00 27.44	C
ATOM	1161	N	MET	A	160	21.255	1.984	25.269	1.00 26.08	N
ATOM	1162	CA	MET	A	160	21.175	1.652	23.840	1.00 26.30	C
ATOM	1163	C	MET	A	160	20.906	2.929	23.005	1.00 24.71	C
ATOM	1164	O	MET	A	160	21.559	3.164	22.000	1.00 23.40	O
ATOM	1165	CB	MET	A	160	20.081	0.617	23.565	1.00 26.71	C
ATOM	1166	CG	MET	A	160	20.401	-0.790	24.070	1.00 30.23	C
ATOM	1167	SD	MET	A	160	21.721	-1.628	23.154	1.00 35.73	S
ATOM	1168	CE	MET	A	160	20.883	-1.823	21.524	1.00 36.68	C
ATOM	1169	N	ASP	A	161	19.948	3.739	23.439	1.00 23.86	N
ATOM	1170	CA	ASP	A	161	19.636	5.000	22.756	1.00 23.67	C
ATOM	1171	C	ASP	A	161	20.840	5.943	22.664	1.00 22.65	C
ATOM	1172	O	ASP	A	161	21.148	6.478	21.593	1.00 23.02	O
ATOM	1173	CB	ASP	A	161	18.472	5.699	23.455	1.00 23.42	C
ATOM	1174	CG	ASP	A	161	17.178	4.898	23.369	1.00 24.19	C
ATOM	1175	OD1	ASP	A	161	17.095	3.941	22.552	1.00 19.47	O
ATOM	1176	OD2	ASP	A	161	16.197	5.164	24.087	1.00 24.90	O
ATOM	1177	N	PHE	A	162	21.513	6.132	23.791	1.00 21.70	N
ATOM	1178	CA	PHE	A	162	22.667	7.003	23.903	1.00 21.16	C
ATOM	1179	C	PHE	A	162	23.777	6.557	22.964	1.00 20.02	C
ATOM	1180	O	PHE	A	162	24.393	7.362	22.310	1.00 20.22	O
ATOM	1181	CB	PHE	A	162	23.144	7.010	25.364	1.00 21.38	C
ATOM	1182	CG	PHE	A	162	24.286	7.936	25.650	1.00 22.82	C
ATOM	1183	CD1	PHE	A	162	24.072	9.290	25.882	1.00 26.05	C
ATOM	1184	CD2	PHE	A	162	25.579	7.450	25.738	1.00 24.99	C
ATOM	1185	CE1	PHE	A	162	25.144	10.136	26.181	1.00 25.32	C
ATOM	1186	CE2	PHE	A	162	26.654	8.301	26.026	1.00 24.73	C
ATOM	1187	CZ	PHE	A	162	26.438	9.622	26.250	1.00 24.82	C
ATOM	1188	N	LEU	A	163	24.029	5.271	22.894	1.00 19.74	N
ATOM	1189	CA	LEU	A	163	25.064	4.767	21.998	1.00 19.88	C
ATOM	1190	C	LEU	A	163	24.688	4.965	20.533	1.00 18.90	C
ATOM	1191	O	LEU	A	163	25.554	5.020	19.675	1.00 18.20	O
ATOM	1192	CB	LEU	A	163	25.320	3.287	22.256	1.00 19.78	C
ATOM	1193	CG	LEU	A	163	26.078	3.019	23.546	1.00 20.79	C
ATOM	1194	CD1	LEU	A	163	26.069	1.534	23.811	1.00 21.16	C
ATOM	1195	CD2	LEU	A	163	27.498	3.567	23.456	1.00 21.66	C
ATOM	1196	N	GLY	A	164	23.395	5.055	20.272	1.00 18.33	N
ATOM	1197	CA	GLY	A	164	22.883	5.296	18.941	1.00 19.05	C
ATOM	1198	C	GLY	A	164	22.879	6.764	18.519	1.00 19.33	C
ATOM	1199	O	GLY	A	164	22.347	7.079	17.451	1.00 20.16	O
ATOM	1200	N	PHE	A	165	23.424	7.651	19.350	1.00 18.45	N
ATOM	1201	CA	PHE	A	165	23.516	9.048	18.974	1.00 19.26	C
ATOM	1202	C	PHE	A	165	24.548	9.102	17.850	1.00 19.34	C
ATOM	1203	O	PHE	A	165	25.363	8.177	17.720	1.00 18.77	O
ATOM	1204	CB	PHE	A	165	23.947	9.915	20.158	1.00 19.09	C
ATOM	1205	CG	PHE	A	165	22.862	10.139	21.208	1.00 20.44	C
ATOM	1206	CD1	PHE	A	165	21.572	9.632	21.047	1.00 21.56	C
ATOM	1207	CD2	PHE	A	165	23.143	10.878	22.357	1.00 20.27	C
ATOM	1208	CE1	PHE	A	165	20.604	9.840	22.010	1.00 21.01	C
ATOM	1209	CE2	PHE	A	165	22.174	11.096	23.326	1.00 20.14	C
ATOM	1210	CZ	PHE	A	165	20.913	10.567	23.163	1.00 22.00	C

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ATOM   1211  N   ASN A 166      24.508  10.157  17.040  1.00 19.48           N
ATOM   1212  CA  ASN A 166      25.428  10.290  15.897  1.00 20.08           C
ATOM   1213  C   ASN A 166      26.827  10.792  16.305  1.00 20.53           C
ATOM   1214  O   ASN A 166      27.193  11.975  16.076  1.00 20.34           O
ATOM   1215  CB  ASN A 166      24.836  11.183  14.790  1.00 19.52           C
ATOM   1216  CG  ASN A 166      25.572  11.003  13.451  1.00 19.82           C
ATOM   1217  OD1 ASN A 166      26.652  10.376  13.412  1.00 18.39           O
ATOM   1218  ND2 ASN A 166      24.987  11.528  12.350  1.00 15.25           N
ATOM   1219  N   TRP A 167      27.564   9.892  16.955  1.00 20.69           N
ATOM   1220  CA  TRP A 167      28.911  10.161  17.441  1.00 21.20           C
ATOM   1221  C   TRP A 167      29.858  10.404  16.270  1.00 21.35           C
ATOM   1222  O   TRP A 167      30.806  11.171  16.371  1.00 21.36           O
ATOM   1223  CB  TRP A 167      29.402   8.977  18.316  1.00 21.31           C
ATOM   1224  CG  TRP A 167      28.550   8.849  19.539  1.00 21.63           C
ATOM   1225  CD1 TRP A 167      27.673   7.841  19.844  1.00 22.35           C
ATOM   1226  CD2 TRP A 167      28.433   9.808  20.591  1.00 20.88           C
ATOM   1227  NE1 TRP A 167      27.030   8.119  21.028  1.00 22.98           N
ATOM   1228  CE2 TRP A 167      27.486   9.315  21.511  1.00 21.22           C
ATOM   1229  CE3 TRP A 167      29.054  11.036  20.863  1.00 20.14           C
ATOM   1230  CZ2 TRP A 167      27.143   9.999  22.670  1.00 22.17           C
ATOM   1231  CZ3 TRP A 167      28.693  11.724  21.990  1.00 19.81           C
ATOM   1232  CH2 TRP A 167      27.742  11.206  22.889  1.00 21.02           C
ATOM   1233  N   ASN A 168      29.610   9.743  15.153  1.00 21.50           N
ATOM   1234  CA  ASN A 168      30.464   9.927  13.991  1.00 21.77           C
ATOM   1235  C   ASN A 168      30.488  11.406  13.605  1.00 21.48           C
ATOM   1236  O   ASN A 168      31.549  11.992  13.428  1.00 20.55           O
ATOM   1237  CB  ASN A 168      29.964   9.101  12.814  1.00 22.00           C
ATOM   1238  CG  ASN A 168      30.856   9.236  11.584  1.00 23.99           C
ATOM   1239  OD1 ASN A 168      32.052   8.974  11.661  1.00 26.79           O
ATOM   1240  ND2 ASN A 168      30.277   9.652  10.448  1.00 24.40           N
ATOM   1241  N   TRP A 169      29.302  11.995  13.484  1.00 21.28           N
ATOM   1242  CA  TRP A 169      29.183  13.372  13.071  1.00 21.23           C
ATOM   1243  C   TRP A 169      29.708  14.331  14.133  1.00 21.44           C
ATOM   1244  O   TRP A 169      30.450  15.258  13.822  1.00 20.50           O
ATOM   1245  CB  TRP A 169      27.736  13.741  12.740  1.00 21.29           C
ATOM   1246  CG  TRP A 169      27.611  15.186  12.397  1.00 20.56           C
ATOM   1247  CD1 TRP A 169      27.840  15.766  11.173  1.00 19.81           C
ATOM   1248  CD2 TRP A 169      27.293  16.256  13.290  1.00 20.58           C
ATOM   1249  NE1 TRP A 169      27.641  17.124  11.253  1.00 20.45           N
ATOM   1250  CE2 TRP A 169      27.313  17.453  12.540  1.00 21.52           C
ATOM   1251  CE3 TRP A 169      26.951  16.324  14.636  1.00 22.34           C
ATOM   1252  CZ2 TRP A 169      27.036  18.705  13.102  1.00 24.24           C
ATOM   1253  CZ3 TRP A 169      26.690  17.558  15.195  1.00 24.93           C
ATOM   1254  CH2 TRP A 169      26.728  18.736  14.423  1.00 25.53           C
ATOM   1255  N   ILE A 170      29.318  14.124  15.381  1.00 21.81           N
ATOM   1256  CA  ILE A 170      29.742  15.056  16.412  1.00 22.51           C
ATOM   1257  C   ILE A 170      31.245  14.894  16.755  1.00 23.07           C
ATOM   1258  O   ILE A 170      31.917  15.872  17.067  1.00 23.88           O
ATOM   1259  CB  ILE A 170      28.837  14.988  17.662  1.00 21.97           C
ATOM   1260  CG1 ILE A 170      28.878  16.326  18.396  1.00 21.44           C
ATOM   1261  CG2 ILE A 170      29.262  13.894  18.581  1.00 21.76           C
ATOM   1262  CD1 ILE A 170      27.794  16.472  19.409  1.00 21.59           C
ATOM   1263  N   ASN A 171      31.781  13.692  16.674  1.00 23.52           N
ATOM   1264  CA  ASN A 171      33.209  13.516  16.934  1.00 24.55           C
ATOM   1265  C   ASN A 171      34.021  14.254  15.874  1.00 25.23           C
ATOM   1266  O   ASN A 171      35.067  14.828  16.171  1.00 25.14           O
ATOM   1267  CB  ASN A 171      33.626  12.031  16.949  1.00 24.52           C
ATOM   1268  CG  ASN A 171      33.095  11.271  18.171  1.00 24.45           C
ATOM   1269  OD1 ASN A 171      32.625  11.855  19.154  1.00 23.01           O
ATOM   1270  ND2 ASN A 171      33.169   9.969  18.099  1.00 22.49           N
ATOM   1271  N   LYS A 172      33.560  14.219  14.630  1.00 25.46           N
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ATOM   1272  CA  LYS A 172      34.255  14.963  13.592  1.00 26.46           C
ATOM   1273  C   LYS A 172      34.221  16.478  13.873  1.00 25.77           C
ATOM   1274  O   LYS A 172      35.224  17.169  13.681  1.00 25.85           O
ATOM   1275  CB  LYS A 172      33.705  14.634  12.205  1.00 26.90           C
ATOM   1276  CG  LYS A 172      34.262  13.351  11.668  1.00 29.88           C
ATOM   1277  CD  LYS A 172      33.752  13.033  10.240  1.00 34.20           C
ATOM   1278  CE  LYS A 172      34.458  11.810   9.690  1.00 36.15           C
ATOM   1279  NZ  LYS A 172      34.556  11.800   8.188  1.00 40.56           N
ATOM   1280  N   GLN A 173      33.088  16.986  14.338  1.00 25.37           N
ATOM   1281  CA  GLN A 173      32.981  18.400  14.690  1.00 25.52           C
ATOM   1282  C   GLN A 173      34.002  18.741  15.774  1.00 25.71           C
ATOM   1283  O   GLN A 173      34.780  19.669  15.618  1.00 26.05           O
ATOM   1284  CB  GLN A 173      31.589  18.740  15.200  1.00 25.30           C
ATOM   1285  CG  GLN A 173      30.522  18.729  14.138  1.00 25.28           C
ATOM   1286  CD  GLN A 173      30.783  19.753  13.061  1.00 26.34           C
ATOM   1287  OE1 GLN A 173      31.252  20.872  13.345  1.00 26.57           O
ATOM   1288  NE2 GLN A 173      30.492  19.386  11.822  1.00 23.68           N
ATOM   1289  N   GLN A 174      33.972  17.985  16.867  1.00 25.20           N
ATOM   1290  CA  GLN A 174      34.931  18.124  17.944  1.00 25.45           C
ATOM   1291  C   GLN A 174      36.380  18.182  17.392  1.00 25.74           C
ATOM   1292  O   GLN A 174      37.152  19.066  17.767  1.00 24.76           O
ATOM   1293  CB  GLN A 174      34.770  16.951  18.923  1.00 25.13           C
ATOM   1294  CG  GLN A 174      35.771  16.925  20.048  1.00 26.00           C
ATOM   1295  CD  GLN A 174      35.636  15.697  20.929  1.00 26.76           C
ATOM   1296  OE1 GLN A 174      35.278  14.629  20.450  1.00 28.02           O
ATOM   1297  NE2 GLN A 174      35.917  15.851  22.222  1.00 26.75           N
ATOM   1298  N   GLY A 175      36.724  17.249  16.505  1.00 25.61           N
ATOM   1299  CA  GLY A 175      38.040  17.201  15.887  1.00 26.56           C
ATOM   1300  C   GLY A 175      38.333  18.393  14.980  1.00 27.62           C
ATOM   1301  O   GLY A 175      39.371  19.051  15.111  1.00 28.21           O
ATOM   1302  N   LYS A 176      37.415  18.695  14.074  1.00 28.41           N
ATOM   1303  CA  LYS A 176      37.583  19.834  13.173  1.00 29.52           C
ATOM   1304  C   LYS A 176      37.778  21.177  13.895  1.00 29.38           C
ATOM   1305  O   LYS A 176      38.557  22.009  13.443  1.00 29.30           O
ATOM   1306  CB  LYS A 176      36.371  19.977  12.257  1.00 29.90           C
ATOM   1307  CG  LYS A 176      36.212  18.895  11.227  1.00 32.69           C
ATOM   1308  CD  LYS A 176      35.023  19.242  10.336  1.00 36.10           C
ATOM   1309  CE  LYS A 176      34.114  18.065  10.148  1.00 37.89           C
ATOM   1310  NZ  LYS A 176      32.736  18.469   9.746  1.00 40.12           N
ATOM   1311  N   ARG A 177      37.060  21.397  14.993  1.00 29.00           N
ATOM   1312  CA  ARG A 177      37.164  22.671  15.710  1.00 29.17           C
ATOM   1313  C   ARG A 177      38.260  22.741  16.781  1.00 28.13           C
ATOM   1314  O   ARG A 177      38.433  23.788  17.394  1.00 27.46           O
ATOM   1315  CB  ARG A 177      35.831  23.025  16.391  1.00 29.67           C
ATOM   1316  CG  ARG A 177      34.606  22.876  15.536  1.00 31.86           C
ATOM   1317  CD  ARG A 177      34.629  23.648  14.243  1.00 35.68           C
ATOM   1318  NE  ARG A 177      33.691  23.034  13.313  1.00 38.08           N
ATOM   1319  CZ  ARG A 177      33.865  22.938  12.015  1.00 40.57           C
ATOM   1320  NH1 ARG A 177      34.958  23.420  11.436  1.00 41.44           N
ATOM   1321  NH2 ARG A 177      32.927  22.362  11.283  1.00 42.98           N
ATOM   1322  N   GLY A 178      38.972  21.640  17.014  1.00 27.36           N
ATOM   1323  CA  GLY A 178      40.013  21.589  18.028  1.00 26.75           C
ATOM   1324  C   GLY A 178      39.460  21.655  19.444  1.00 26.55           C
ATOM   1325  O   GLY A 178      40.175  21.999  20.394  1.00 27.31           O
ATOM   1326  N   TRP A 179      38.195  21.308  19.620  1.00 25.19           N
ATOM   1327  CA  TRP A 179      37.626  21.379  20.947  1.00 25.17           C
ATOM   1328  C   TRP A 179      38.257  20.404  21.926  1.00 25.28           C
ATOM   1329  O   TRP A 179      38.909  19.454  21.541  1.00 24.67           O
ATOM   1330  CB  TRP A 179      36.127  21.139  20.901  1.00 24.78           C
ATOM   1331  CG  TRP A 179      35.364  22.197  20.201  1.00 24.55           C
ATOM   1332  CD1 TRP A 179      35.830  23.425  19.776  1.00 23.00           C
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ATOM   1333  CD2 TRP A 179      33.985  22.140  19.825  1.00 24.35           C
ATOM   1334  NE1 TRP A 179      34.822  24.122  19.153  1.00 24.53           N
ATOM   1335  CE2 TRP A 179      33.676  23.355  19.167  1.00 24.34           C
ATOM   1336  CE3 TRP A 179      32.982  21.177  19.957  1.00 23.62           C
ATOM   1337  CZ2 TRP A 179      32.417  23.627  18.659  1.00 22.63           C
ATOM   1338  CZ3 TRP A 179      31.726  21.454  19.442  1.00 24.07           C
ATOM   1339  CH2 TRP A 179      31.453  22.674  18.811  1.00 23.17           C
ATOM   1340  N   GLY A 180      38.061  20.669  23.210  1.00 25.61           N
ATOM   1341  CA  GLY A 180      38.471  19.737  24.240  1.00 25.44           C
ATOM   1342  C   GLY A 180      37.428  18.634  24.377  1.00 26.09           C
ATOM   1343  O   GLY A 180      36.592  18.432  23.491  1.00 26.60           O
ATOM   1344  N   GLN A 181      37.448  17.934  25.503  1.00 26.33           N
ATOM   1345  CA  GLN A 181      36.561  16.806  25.708  1.00 26.77           C
ATOM   1346  C   GLN A 181      35.099  17.180  25.953  1.00 26.26           C
ATOM   1347  O   GLN A 181      34.775  18.291  26.371  1.00 25.90           O
ATOM   1348  CB  GLN A 181      37.044  15.970  26.887  1.00 27.12           C
ATOM   1349  CG  GLN A 181      36.689  16.543  28.269  1.00 29.66           C
ATOM   1350  CD  GLN A 181      36.917  15.533  29.388  1.00 33.17           C
ATOM   1351  OE1 GLN A 181      38.055  15.295  29.791  1.00 35.52           O
ATOM   1352  NE2 GLN A 181      35.839  14.920  29.869  1.00 35.59           N
ATOM   1353  N   LEU A 182      34.238  16.225  25.646  1.00 25.83           N
ATOM   1354  CA  LEU A 182      32.831  16.241  26.021  1.00 25.59           C
ATOM   1355  C   LEU A 182      32.850  16.162  27.543  1.00 24.45           C
ATOM   1356  O   LEU A 182      33.433  15.209  28.084  1.00 23.27           O
ATOM   1357  CB  LEU A 182      32.180  14.958  25.499  1.00 25.74           C
ATOM   1358  CG  LEU A 182      30.666  14.790  25.403  1.00 28.29           C
ATOM   1359  CD1 LEU A 182      30.276  13.328  25.676  1.00 27.13           C
ATOM   1360  CD2 LEU A 182      29.928  15.671  26.303  1.00 30.64           C
ATOM   1361  N   THR A 183      32.288  17.158  28.239  1.00 23.24           N
ATOM   1362  CA  THR A 183      32.256  17.110  29.699  1.00 22.37           C
ATOM   1363  C   THR A 183      30.956  16.504  30.150  1.00 22.01           C
ATOM   1364  O   THR A 183      30.907  15.867  31.186  1.00 21.99           O
ATOM   1365  CB  THR A 183      32.395  18.504  30.371  1.00 22.62           C
ATOM   1366  OG1 THR A 183      31.367  19.393  29.893  1.00 20.93           O
ATOM   1367  CG2 THR A 183      33.707  19.154  30.013  1.00 22.33           C
ATOM   1368  N   SER A 184      29.885  16.711  29.396  1.00 21.54           N
ATOM   1369  CA  SER A 184      28.622  16.146  29.810  1.00 21.58           C
ATOM   1370  C   SER A 184      27.498  16.381  28.866  1.00 21.50           C
ATOM   1371  O   SER A 184      27.610  17.168  27.928  1.00 21.85           O
ATOM   1372  CB  SER A 184      28.209  16.715  31.158  1.00 21.78           C
ATOM   1373  OG  SER A 184      27.856  18.072  31.056  1.00 23.20           O
ATOM   1374  N   ASN A 185      26.416  15.667  29.134  1.00 21.14           N
ATOM   1375  CA  ASN A 185      25.167  15.807  28.427  1.00 22.40           C
ATOM   1376  C   ASN A 185      24.104  16.059  29.459  1.00 22.16           C
ATOM   1377  O   ASN A 185      23.802  15.189  30.272  1.00 22.11           O
ATOM   1378  CB  ASN A 185      24.794  14.523  27.664  1.00 22.46           C
ATOM   1379  CG  ASN A 185      25.798  14.174  26.604  1.00 23.64           C
ATOM   1380  OD1 ASN A 185      26.582  13.257  26.789  1.00 25.26           O
ATOM   1381  ND2 ASN A 185      25.794  14.907  25.494  1.00 22.02           N
ATOM   1382  N   LEU A 186      23.507  17.228  29.391  1.00 22.02           N
ATOM   1383  CA  LEU A 186      22.461  17.600  30.319  1.00 22.34           C
ATOM   1384  C   LEU A 186      21.114  17.251  29.707  1.00 22.21           C
ATOM   1385  O   LEU A 186      20.808  17.623  28.582  1.00 22.59           O
ATOM   1386  CB  LEU A 186      22.519  19.111  30.591  1.00 22.36           C
ATOM   1387  CG  LEU A 186      21.650  19.642  31.739  1.00 23.03           C
ATOM   1388  CD1 LEU A 186      22.124  19.073  33.069  1.00 22.66           C
ATOM   1389  CD2 LEU A 186      21.636  21.213  31.782  1.00 21.88           C
ATOM   1390  N   LEU A 187      20.307  16.530  30.461  1.00 22.39           N
ATOM   1391  CA  LEU A 187      18.949  16.234  30.057  1.00 21.93           C
ATOM   1392  C   LEU A 187      18.089  17.336  30.659  1.00 21.94           C
ATOM   1393  O   LEU A 187      18.163  17.569  31.870  1.00 21.56           O
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ATOM   1394  CB  LEU A 187      18.525  14.883  30.604  1.00 21.36           C
ATOM   1395  CG  LEU A 187      17.037  14.555  30.489  1.00 22.46           C
ATOM   1396  CD1 LEU A 187      16.550  14.530  29.038  1.00 22.25           C
ATOM   1397  CD2 LEU A 187      16.783  13.200  31.154  1.00 22.25           C
ATOM   1398  N   LEU A 188      17.301  18.028  29.826  1.00 21.68           N
ATOM   1399  CA  LEU A 188      16.400  19.052  30.329  1.00 22.46           C
ATOM   1400  C   LEU A 188      14.925  18.743  30.021  1.00 22.70           C
ATOM   1401  O   LEU A 188      14.511  18.622  28.864  1.00 23.01           O
ATOM   1402  CB  LEU A 188      16.747  20.432  29.769  1.00 22.51           C
ATOM   1403  CG  LEU A 188      18.166  20.932  29.998  1.00 24.09           C
ATOM   1404  CD1 LEU A 188      18.916  20.996  28.697  1.00 26.99           C
ATOM   1405  CD2 LEU A 188      18.135  22.308  30.564  1.00 25.94           C
ATOM   1406  N   ILE A 189      14.117  18.652  31.061  1.00 22.31           N
ATOM   1407  CA  ILE A 189      12.721  18.383  30.851  1.00 22.23           C
ATOM   1408  C   ILE A 189      11.959  19.459  31.554  1.00 22.43           C
ATOM   1409  O   ILE A 189      12.045  19.599  32.773  1.00 22.44           O
ATOM   1410  CB  ILE A 189      12.328  17.009  31.369  1.00 21.56           C
ATOM   1411  CG1 ILE A 189      13.178  15.944  30.695  1.00 21.26           C
ATOM   1412  CG2 ILE A 189      10.873  16.794  31.078  1.00 21.74           C
ATOM   1413  CD1 ILE A 189      12.851  14.481  31.136  1.00 22.52           C
ATOM   1414  N   GLY A 190      11.226  20.239  30.770  1.00 23.11           N
ATOM   1415  CA  GLY A 190      10.545  21.396  31.294  1.00 23.06           C
ATOM   1416  C   GLY A 190       9.084  21.395  30.988  1.00 23.56           C
ATOM   1417  O   GLY A 190       8.594  20.646  30.117  1.00 23.29           O
ATOM   1418  N   MET A 191       8.385  22.224  31.755  1.00 24.04           N
ATOM   1419  CA  MET A 191       6.980  22.468  31.542  1.00 24.73           C
ATOM   1420  C   MET A 191       6.837  23.623  30.576  1.00 24.58           C
ATOM   1421  O   MET A 191       7.747  24.464  30.443  1.00 24.72           O
ATOM   1422  CB  MET A 191       6.301  22.821  32.860  1.00 25.52           C
ATOM   1423  CG  MET A 191       6.212  21.649  33.806  1.00 26.99           C
ATOM   1424  SD  MET A 191       5.710  22.122  35.447  1.00 30.62           S
ATOM   1425  CE  MET A 191       4.076  22.639  35.135  1.00 32.05           C
ATOM   1426  N   GLU A 192       5.701  23.659  29.893  1.00 24.37           N
ATOM   1427  CA  GLU A 192       5.407  24.718  28.940  1.00 24.51           C
ATOM   1428  C   GLU A 192       5.468  26.072  29.628  1.00 24.20           C
ATOM   1429  O   GLU A 192       5.013  26.237  30.745  1.00 24.12           O
ATOM   1430  CB  GLU A 192       4.029  24.514  28.342  1.00 24.59           C
ATOM   1431  CG  GLU A 192       2.930  24.487  29.384  1.00 26.08           C
ATOM   1432  CD  GLU A 192       1.590  24.051  28.830  1.00 26.38           C
ATOM   1433  OE1 GLU A 192       1.530  23.568  27.676  1.00 27.04           O
ATOM   1434  OE2 GLU A 192       0.599  24.219  29.562  1.00 25.46           O
ATOM   1435  N   GLY A 193       6.045  27.051  28.962  1.00 24.44           N
ATOM   1436  CA  GLY A 193       6.153  28.364  29.562  1.00 24.21           C
ATOM   1437  C   GLY A 193       7.428  28.565  30.358  1.00 23.71           C
ATOM   1438  O   GLY A 193       7.728  29.691  30.697  1.00 24.97           O
ATOM   1439  N   ASN A 194       8.181  27.507  30.663  1.00 23.27           N
ATOM   1440  CA  ASN A 194       9.445  27.656  31.413  1.00 22.47           C
ATOM   1441  C   ASN A 194      10.465  28.476  30.636  1.00 22.35           C
ATOM   1442  O   ASN A 194      10.594  28.317  29.416  1.00 22.38           O
ATOM   1443  CB  ASN A 194      10.108  26.299  31.708  1.00 22.17           C
ATOM   1444  CG  ASN A 194       9.476  25.555  32.882  1.00 22.24           C
ATOM   1445  OD1 ASN A 194       8.477  25.992  33.453  1.00 23.81           O
ATOM   1446  ND2 ASN A 194      10.075  24.429  33.253  1.00 18.58           N
ATOM   1447  N   VAL A 195      11.226  29.295  31.362  1.00 21.64           N
ATOM   1448  CA  VAL A 195      12.263  30.114  30.789  1.00 21.41           C
ATOM   1449  C   VAL A 195      13.569  29.988  31.556  1.00 20.40           C
ATOM   1450  O   VAL A 195      13.603  30.014  32.790  1.00 20.03           O
ATOM   1451  CB  VAL A 195      11.889  31.621  30.828  1.00 21.72           C
ATOM   1452  CG1 VAL A 195      13.038  32.476  30.327  1.00 21.84           C
ATOM   1453  CG2 VAL A 195      10.628  31.904  30.043  1.00 23.61           C
ATOM   1454  N   THR A 196      14.644  29.834  30.813  1.00 19.77           N
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ATOM   1455  CA  THR A 196      15.980  29.917  31.376  1.00 20.37           C
ATOM   1456  C   THR A 196      16.467  31.291  30.933  1.00 20.92           C
ATOM   1457  O   THR A 196      16.649  31.505  29.724  1.00 20.45           O
ATOM   1458  CB  THR A 196      16.882  28.865  30.793  1.00 19.87           C
ATOM   1459  OG1 THR A 196      16.457  27.564  31.227  1.00 21.07           O
ATOM   1460  CG2 THR A 196      18.273  29.043  31.340  1.00 20.00           C
ATOM   1461  N   PRO A 197      16.602  32.225  31.879  1.00 21.53           N
ATOM   1462  CA  PRO A 197      16.997  33.609  31.572  1.00 22.24           C
ATOM   1463  C   PRO A 197      18.375  33.688  30.952  1.00 22.26           C
ATOM   1464  O   PRO A 197      19.195  32.773  31.130  1.00 22.66           O
ATOM   1465  CB  PRO A 197      16.998  34.305  32.934  1.00 22.51           C
ATOM   1466  CG  PRO A 197      16.282  33.411  33.839  1.00 22.92           C
ATOM   1467  CD  PRO A 197      16.367  32.028  33.312  1.00 21.85           C
ATOM   1468  N   ALA A 198      18.606  34.776  30.234  1.00 21.54           N
ATOM   1469  CA  ALA A 198      19.821  34.976  29.486  1.00 21.47           C
ATOM   1470  C   ALA A 198      21.110  34.764  30.282  1.00 21.22           C
ATOM   1471  O   ALA A 198      21.298  35.310  31.386  1.00 20.56           O
ATOM   1472  CB  ALA A 198      19.809  36.397  28.891  1.00 21.92           C
ATOM   1473  N   HIS A 199      22.023  34.020  29.683  1.00 21.01           N
ATOM   1474  CA  HIS A 199      23.321  33.764  30.288  1.00 21.40           C
ATOM   1475  C   HIS A 199      24.250  33.279  29.213  1.00 21.61           C
ATOM   1476  O   HIS A 199      23.811  33.017  28.089  1.00 21.18           O
ATOM   1477  CB  HIS A 199      23.217  32.669  31.338  1.00 21.05           C
ATOM   1478  CG  HIS A 199      22.864  31.354  30.746  1.00 22.98           C
ATOM   1479  ND1 HIS A 199      21.576  31.048  30.370  1.00 21.97           N
ATOM   1480  CD2 HIS A 199      23.630  30.287  30.399  1.00 21.48           C
ATOM   1481  CE1 HIS A 199      21.558  29.838  29.838  1.00 22.85           C
ATOM   1482  NE2 HIS A 199      22.791  29.368  29.821  1.00 24.36           N
ATOM   1483  N   TYR A 200      25.538  33.177  29.555  1.00 22.22           N
ATOM   1484  CA  TYR A 200      26.531  32.597  28.654  1.00 22.56           C
ATOM   1485  C   TYR A 200      27.234  31.448  29.380  1.00 22.96           C
ATOM   1486  O   TYR A 200      27.293  31.430  30.612  1.00 22.90           O
ATOM   1487  CB  TYR A 200      27.528  33.610  28.129  1.00 22.56           C
ATOM   1488  CG  TYR A 200      28.492  34.228  29.145  1.00 23.02           C
ATOM   1489  CD1 TYR A 200      29.731  33.671  29.385  1.00 22.79           C
ATOM   1490  CD2 TYR A 200      28.180  35.419  29.799  1.00 23.89           C
ATOM   1491  CE1 TYR A 200      30.612  34.229  30.283  1.00 22.32           C
ATOM   1492  CE2 TYR A 200      29.062  35.991  30.722  1.00 22.06           C
ATOM   1493  CZ  TYR A 200      30.277  35.402  30.947  1.00 22.13           C
ATOM   1494  OH  TYR A 200      31.163  35.957  31.843  1.00 20.46           O
ATOM   1495  N   ASP A 201      27.723  30.467  28.619  1.00 23.11           N
ATOM   1496  CA  ASP A 201      28.433  29.326  29.213  1.00 23.02           C
ATOM   1497  C   ASP A 201      29.833  29.338  28.687  1.00 23.38           C
ATOM   1498  O   ASP A 201      30.038  29.811  27.597  1.00 24.05           O
ATOM   1499  CB  ASP A 201      27.776  28.012  28.829  1.00 22.85           C
ATOM   1500  CG  ASP A 201      26.365  27.898  29.338  1.00 21.12           C
ATOM   1501  OD1 ASP A 201      26.176  27.802  30.568  1.00 23.22           O
ATOM   1502  OD2 ASP A 201      25.387  27.845  28.574  1.00 20.55           O
ATOM   1503  N   GLU A 202      30.799  28.820  29.437  1.00 23.78           N
ATOM   1504  CA  GLU A 202      32.184  28.782  28.950  1.00 25.14           C
ATOM   1505  C   GLU A 202      32.524  27.467  28.269  1.00 24.96           C
ATOM   1506  O   GLU A 202      33.657  27.001  28.394  1.00 26.76           O
ATOM   1507  CB  GLU A 202      33.218  28.965  30.091  1.00 24.67           C
ATOM   1508  CG  GLU A 202      33.017  30.199  30.941  1.00 27.79           C
ATOM   1509  CD  GLU A 202      34.089  30.312  32.025  1.00 30.13           C
ATOM   1510  OE1 GLU A 202      34.018  29.584  33.030  1.00 32.67           O
ATOM   1511  OE2 GLU A 202      35.010  31.114  31.844  1.00 29.05           O
ATOM   1512  N   GLN A 203      31.547  26.818  27.653  1.00 24.30           N
ATOM   1513  CA  GLN A 203      31.804  25.624  26.874  1.00 23.24           C
ATOM   1514  C   GLN A 203      31.036  25.764  25.572  1.00 22.84           C
ATOM   1515  O   GLN A 203      30.122  26.560  25.468  1.00 23.00           O
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ATOM   1516  CB  GLN A 203      31.373  24.363  27.618  1.00 23.43           C
ATOM   1517  CG  GLN A 203      32.256  24.031  28.826  1.00 23.66           C
ATOM   1518  CD  GLN A 203      32.061  22.612  29.354  1.00 25.58           C
ATOM   1519  OE1 GLN A 203      31.915  21.661  28.582  1.00 27.85           O
ATOM   1520  NE2 GLN A 203      32.084  22.468  30.670  1.00 25.67           N
ATOM   1521  N   GLN A 204      31.465  25.013  24.575  1.00 22.51           N
ATOM   1522  CA  GLN A 204      30.791  24.910  23.299  1.00 22.51           C
ATOM   1523  C   GLN A 204      29.626  23.980  23.504  1.00 21.70           C
ATOM   1524  O   GLN A 204      29.737  23.026  24.255  1.00 21.24           O
ATOM   1525  CB  GLN A 204      31.718  24.307  22.255  1.00 22.29           C
ATOM   1526  CG  GLN A 204      33.001  25.081  22.072  1.00 22.69           C
ATOM   1527  CD  GLN A 204      32.820  26.346  21.259  1.00 22.39           C
ATOM   1528  OE1 GLN A 204      31.699  26.736  20.932  1.00 19.22           O
ATOM   1529  NE2 GLN A 204      33.937  26.970  20.906  1.00 19.77           N
ATOM   1530  N   ASN A 205      28.523  24.241  22.810  1.00 21.48           N
ATOM   1531  CA  ASN A 205      27.309  23.471  23.017  1.00 21.04           C
ATOM   1532  C   ASN A 205      26.558  23.136  21.730  1.00 21.10           C
ATOM   1533  O   ASN A 205      26.188  24.043  20.949  1.00 20.02           O
ATOM   1534  CB  ASN A 205      26.401  24.322  23.920  1.00 21.70           C
ATOM   1535  CG  ASN A 205      25.084  23.654  24.269  1.00 21.87           C
ATOM   1536  OD1 ASN A 205      24.732  22.577  23.775  1.00 22.07           O
ATOM   1537  ND2 ASN A 205      24.332  24.320  25.118  1.00 19.37           N
ATOM   1538  N   PHE A 206      26.350  21.835  21.497  1.00 20.28           N
ATOM   1539  CA  PHE A 206      25.372  21.414  20.523  1.00 20.14           C
ATOM   1540  C   PHE A 206      24.141  21.030  21.323  1.00 19.94           C
ATOM   1541  O   PHE A 206      24.164  20.052  22.065  1.00 20.71           O
ATOM   1542  CB  PHE A 206      25.851  20.238  19.693  1.00 20.65           C
ATOM   1543  CG  PHE A 206      26.799  20.618  18.620  1.00 20.30           C
ATOM   1544  CD1 PHE A 206      26.394  21.438  17.600  1.00 20.89           C
ATOM   1545  CD2 PHE A 206      28.101  20.168  18.642  1.00 21.26           C
ATOM   1546  CE1 PHE A 206      27.254  21.783  16.605  1.00 22.17           C
ATOM   1547  CE2 PHE A 206      28.980  20.523  17.641  1.00 21.31           C
ATOM   1548  CZ  PHE A 206      28.558  21.336  16.632  1.00 21.79           C
ATOM   1549  N   PHE A 207      23.058  21.764  21.081  1.00 19.87           N
ATOM   1550  CA  PHE A 207      21.790  21.723  21.824  1.00 20.08           C
ATOM   1551  C   PHE A 207      20.766  20.988  20.975  1.00 20.29           C
ATOM   1552  O   PHE A 207      20.276  21.519  20.011  1.00 19.94           O
ATOM   1553  CB  PHE A 207      21.385  23.190  22.083  1.00 20.46           C
ATOM   1554  CG  PHE A 207      20.129  23.404  22.890  1.00 19.14           C
ATOM   1555  CD1 PHE A 207      18.947  23.708  22.267  1.00 19.77           C
ATOM   1556  CD2 PHE A 207      20.169  23.428  24.259  1.00 19.99           C
ATOM   1557  CE1 PHE A 207      17.818  23.980  22.984  1.00 21.67           C
ATOM   1558  CE2 PHE A 207      19.037  23..683  24.992  1.00 22.36           C
ATOM   1559  CZ  PHE A 207      17.854  23.975  24.351  1.00 22.30           C
ATOM   1560  N   ALA A 208      20.480  19.746  21.352  1.00 21.01           N
ATOM   1561  CA  ALA A 208      19.688  18.827  20.541  1.00 21.26           C
ATOM   1562  C   ALA A 208      18.260  18.669  21.030  1.00 21.74           C
ATOM   1563  O   ALA A 208      18.000  17.983  22.049  1.00 21.21           O
ATOM   1564  CB  ALA A 208      20.365  17.464  20.557  1.00 20.94           C
ATOM   1565  N   GLN A 209      17.329  19.245  20.276  1.00 21.56           N
ATOM   1566  CA  GLN A 209      15.940  19.219  20.697  1.00 21.78           C
ATOM   1567  C   GLN A 209      15.289  17.864  20.393  1.00 21.84           C
ATOM   1568  O   GLN A 209      15.506  17.245  19.323  1.00 20.40           O
ATOM   1569  CB  GLN A 209      15.203  20.391  20.068  1.00 22.08           C
ATOM   1570  CG  GLN A 209      13.790  20.597  20.542  1.00 22.02           C
ATOM   1571  CD  GLN A 209      13.688  20.986  22.013  1.00 22.84           C
ATOM   1572  OE1 GLN A 209      14.700  21.240  22.678  1.00 22.55           O
ATOM   1573  NE2 GLN A 209      12.448  21.034  22.524  1.00 21.97           N
ATOM   1574  N   ILE A 210      14.480  17.418  21.351  1.00 22.17           N
ATOM   1575  CA  ILE A 210      13.904  16.084  21.329  1.00 22.53           C
ATOM   1576  C   ILE A 210      12.397  16.074  21.316  1.00 23.45           C
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ATOM   1577  O   ILE A 210      11.813  15.429  20.467  1.00 24.08           O
ATOM   1578  CB  ILE A 210      14.411  15.306  22.541  1.00 22.81           C
ATOM   1579  CG1 ILE A 210      15.857  14.886  22.284  1.00 23.77           C
ATOM   1580  CG2 ILE A 210      13.573  14.064  22.785  1.00 23.17           C
ATOM   1581  CD1 ILE A 210      16.631  14.512  23.519  1.00 24.86           C
ATOM   1582  N   LYS A 211      11.772  16.778  22.258  1.00 23.73           N
ATOM   1583  CA  LYS A 211      10.318  16.829  22.351  1.00 22.99           C
ATOM   1584  C   LYS A 211       9.873  18.253  22.566  1.00 22.73           C
ATOM   1585  O   LYS A 211      10.436  18.969  23.391  1.00 22.34           O
ATOM   1586  CB  LYS A 211       9.818  16.014  23.527  1.00 23.40           C
ATOM   1587  CG  LYS A 211       8.285  15.757  23.509  1.00 24.55           C
ATOM   1588  CD  LYS A 211       7.794  15.232  24.870  1.00 25.75           C
ATOM   1589  CE  LYS A 211       6.389  14.579  24.861  1.00 25.61           C
ATOM   1590  NZ  LYS A 211       5.580  14.641  23.613  1.00 25.29           N
ATOM   1591  N   GLY A 212       8.832  18.655  21.847  1.00 22.34           N
ATOM   1592  CA  GLY A 212       8.292  19.989  21.983  1.00 22.46           C
ATOM   1593  C   GLY A 212       9.188  21.026  21.338  1.00 22.40           C
ATOM   1594  O   GLY A 212      10.172  20.705  20.650  1.00 21.93           O
ATOM   1595  N   TYR A 213       8.859  22.281  21.592  1.00 22.95           N
ATOM   1596  CA  TYR A 213       9.530  23.400  20.944  1.00 23.32           C
ATOM   1597  C   TYR A 213      10.079  24.412  21.926  1.00 23.27           C
ATOM   1598  O   TYR A 213       9.434  24.740  22.918  1.00 23.34           O
ATOM   1599  CB  TYR A 213       8.547  24.092  20.012  1.00 23.77           C
ATOM   1600  CG  TYR A 213       8.133  23.198  18.887  1.00 25.58           C
ATOM   1601  CD1 TYR A 213       7.110  22.261  19.041  1.00 28.74           C
ATOM   1602  CD2 TYR A 213       8.798  23.253  17.687  1.00 28.55           C
ATOM   1603  CE1 TYR A 213       6.764  21.410  17.995  1.00 30.77           C
ATOM   1604  CE2 TYR A 213       8.465  22.429  16.651  1.00 30.41           C
ATOM   1605  CZ  TYR A 213       7.461  21.516  16.795  1.00 31.44           C
ATOM   1606  OH  TYR A 213       7.188  20.720  15.708  1.00 35.50           O
ATOM   1607  N   LYS A 214      11.270  24.911  21.620  1.00 22.60           N
ATOM   1608  CA  LYS A 214      11.916  25.911  22.431  1.00 22.58           C
ATOM   1609  C   LYS A 214      12.353  27.077  21.576  1.00 22.52           C
ATOM   1610  O   LYS A 214      12.937  26.898  20.493  1.00 23.74           O
ATOM   1611  CB  LYS A 214      13.132  25.345  23.169  1.00 22.31           C
ATOM   1612  CG  LYS A 214      12.784  24.539  24.392  1.00 22.79           C
ATOM   1613  CD  LYS A 214      14.053  24.007  25.077  1.00 22.96           C
ATOM   1614  CE  LYS A 214      13.821  23.675  26.530  1.00 20.69           C
ATOM   1615  NZ  LYS A 214      15.076  23.085  27.149  1.00 19.14           N
ATOM   1616  N   ARG A 215      12.037  28.277  22.047  1.00 21.95           N
ATOM   1617  CA  ARG A 215      12.480  29.482  21.378  1.00 21.48           C
ATOM   1618  C   ARG A 215      13.790  29.864  22.018  1.00 21.06           C
ATOM   1619  O   ARG A 215      13.890  29.954  23.230  1.00 20.53           O
ATOM   1620  CB  ARG A 215      11.466  30.582  21.576  1.00 22.15           C
ATOM   1621  CG  ARG A 215      11.843  31.913  20.969  1.00 22.00           C
ATOM   1622  CD  ARG A 215      11.231  33.041  21.727  1.00 23.87           C
ATOM   1623  NE  ARG A 215      11.224  34.272  20.959  1.00 25.87           N
ATOM   1624  CZ  ARG A 215      10.566  35.364  21.297  1.00 25.54           C
ATOM   1625  NH1 ARG A 215       9.873  35.425  22.423  1.00 24.05           N
ATOM   1626  NH2 ARG A 215      10.634  36.420  20.505  1.00 29.37           N
ATOM   1627  N   CYS A 216      14.794  30.090  21.193  1.00 21.48           N
ATOM   1628  CA  CYS A 216      16.123  30.355  21.668  1.00 21.40           C
ATOM   1629  C   CYS A 216      16.533  31.723  21.146  1.00 21.86           C
ATOM   1630  O   CYS A 216      16.532  31.952  19.948  1.00 22.82           O
ATOM   1631  CB  CYS A 216      17.079  29.309  21.127  1.00 21.46           C
ATOM   1632  SG  CYS A 216      16.689  27.562  21.469  1.00 22.63           S
ATOM   1633  N   ILE A 217      16.878  32.630  22.045  1.00 21.29           N
ATOM   1634  CA  ILE A 217      17.331  33.960  21.663  1.00 21.28           C
ATOM   1635  C   ILE A 217      18.782  34.114  22.102  1.00 20.86           C
ATOM   1636  O   ILE A 217      19.085  34.007  23.310  1.00 21.04           O
ATOM   1637  CB  ILE A 217      16.456  35.025  22.327  1.00 21.80           C
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ATOM   1638  CG1 ILE A 217      14.978  34.807  21.955  1.00 22.90           C
ATOM   1639  CG2 ILE A 217      16.874  36.414  21.861  1.00 22.72           C
ATOM   1640  CD1 ILE A 217      14.031  35.695  22.693  1.00 24.99           C
ATOM   1641  N   LEU A 218      19.666  34.346  21.128  1.00 20.25           N
ATOM   1642  CA  LEU A 218      21.094  34.451  21.373  1.00 20.55           C
ATOM   1643  C   LEU A 218      21.630  35.853  21.128  1.00 21.19           C
ATOM   1644  O   LEU A 218      21.141  36.560  20.253  1.00 21.62           O
ATOM   1645  CB  LEU A 218      21.874  33.493  20.467  1.00 20.31           C
ATOM   1646  CG  LEU A 218      21.964  32.019  20.906  1.00 20.46           C
ATOM   1647  CD1 LEU A 218      20.628  31.415  21.054  1.00 20.19           C
ATOM   1648  CD2 LEU A 218      22.732  31.229  19.907  1.00 22.84           C
ATOM   1649  N   PHE A 219      22.658  36.231  21.886  1.00 21.06           N
ATOM   1650  CA  PHE A 219      23.331  37.498  21.682  1.00 21.62           C
ATOM   1651  C   PHE A 219      24.842  37.244  21.611  1.00 21.87           C
ATOM   1652  O   PHE A 219      25.390  36.490  22.416  1.00 21.88           O
ATOM   1653  CB  PHE A 219      23.005  38.484  22.820  1.00 20.94           C
ATOM   1654  CG  PHE A 219      21.541  38.617  23.106  1.00 21.13           C
ATOM   1655  CD1 PHE A 219      20.907  37.779  23.995  1.00 21.92           C
ATOM   1656  CD2 PHE A 219      20.785  39.589  22.476  1.00 24.21           C
ATOM   1657  CE1 PHE A 219      19.563  37.915  24.250  1.00 21.95           C
ATOM   1658  CE2 PHE A 219      19.442  39.724  22.735  1.00 22.06           C
ATOM   1659  CZ  PHE A 219      18.840  38.904  23.621  1.00 23.11           C
ATOM   1660  N   PRO A 220      25.512  37.877  20.662  1.00 22.38           N
ATOM   1661  CA  PRO A 220      26.962  37.744  20.557  1.00 22.81           C
ATOM   1662  C   PRO A 220      27.683  38.287  21.793  1.00 22.78           C
ATOM   1663  O   PRO A 220      27.173  39.123  22.564  1.00 22.88           O
ATOM   1664  CB  PRO A 220      27.335  38.561  19.317  1.00 22.81           C
ATOM   1665  CG  PRO A 220      26.005  39.005  18.685  1.00 23.68           C
ATOM   1666  CD  PRO A 220      24.940  38.792  19.663  1.00 22.86           C
ATOM   1667  N   PRO A 221      28.885  37.774  21.999  1.00 22.84           N
ATOM   1668  CA  PRO A 221      29.724  38.204  23.124  1.00 22.73           C
ATOM   1669  C   PRO A 221      29.976  39.714  23.143  1.00 22.28           C
ATOM   1670  O   PRO A 221      30.192  40.279  24.212  1.00 21.03           O
ATOM   1671  CB  PRO A 221      31.030  37.455  22.892  1.00 22.78           C
ATOM   1672  CG  PRO A 221      30.644  36.296  22.026  1.00 23.22           C
ATOM   1673  CD  PRO A 221      29.521  36.733  21.174  1.00 22.58           C
ATOM   1674  N   ASP A 222      29.897  40.378  21.993  1.00 22.60           N
ATOM   1675  CA  ASP A 222      30.172  41.821  21.965  1.00 22.84           C
ATOM   1676  C   ASP A 222      28.996  42.623  22.493  1.00 23.36           C
ATOM   1677  O   ASP A 222      29.031  43.847  22.500  1.00 24.43           O
ATOM   1678  CB  ASP A 222      30.638  42.308  20.579  1.00 22.47           C
ATOM   1679  CG  ASP A 222      29.502  42.389  19.537  1.00 25.07           C
ATOM   1680  OD1 ASP A 222      28.355  41.942  19.764  1.00 25.24           O
ATOM   1681  OD2 ASP A 222      29.690  42.876  18.410  1.00 29.46           O
ATOM   1682  N   GLN A 223      27.940  41.940  22.926  1.00 23.79           N
ATOM   1683  CA  GLN A 223      26.826  42.624  23.565  1.00 23.85           C
ATOM   1684  C   GLN A 223      26.942  42.570  25.114  1.00 23.37           C
ATOM   1685  O   GLN A 223      25.986  42.875  25.850  1.00 23.78           O
ATOM   1686  CB  GLN A 223      25.510  42.084  23.007  1.00 24.80           C
ATOM   1687  CG  GLN A 223      25.217  42.672  21.550  1.00 28.46           C
ATOM   1688  CD  GLN A 223      23.786  42.471  21.094  1.00 32.35           C
ATOM   1689  OE1 GLN A 223      22.861  42.619  21.893  1.00 36.73           O
ATOM   1690  NE2 GLN A 223      23.592  42.105  19.815  1.00 33.48           N
ATOM   1691  N   PHE A 224      28.111  42.167  25.601  1.00 21.59           N
ATOM   1692  CA  PHE A 224      28.394  42.195  27.035  1.00 21.84           C
ATOM   1693  C   PHE A 224      27.888  43.509  27.706  1.00 21.56           C
ATOM   1694  O   PHE A 224      27.233  43.455  28.738  1.00 20.27           O
ATOM   1695  CB  PHE A 224      29.917  42.068  27.271  1.00 21.34           C
ATOM   1696  CG  PHE A 224      30.309  41.943  28.732  1.00 22.22           C
ATOM   1697  CD1 PHE A 224      30.449  43.071  29.540  1.00 21.80           C
ATOM   1698  CD2 PHE A 224      30.583  40.723  29.279  1.00 20.92           C
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ATOM   1699  CE1 PHE A 224      30.842  42.945  30.868  1.00 22.58           C
ATOM   1700  CE2 PHE A 224      30.979  40.593  30.587  1.00 22.14           C
ATOM   1701  CZ  PHE A 224      31.087  41.725  31.394  1.00 22.16           C
ATOM   1702  N   GLU A 225      28.190  44.665  27.106  1.00 22.03           N
ATOM   1703  CA  GLU A 225      27.813  45.963  27.677  1.00 23.55           C
ATOM   1704  C   GLU A 225      26.322  46.216  27.764  1.00 23.06           C
ATOM   1705  O   GLU A 225      25.907  47.129  28.483  1.00 22.10           O
ATOM   1706  CB  GLU A 225      28.396  47.111  26.856  1.00 24.92           C
ATOM   1707  CG  GLU A 225      29.897  47.228  27.013  1.00 30.17           C
ATOM   1708  CD  GLU A 225      30.386  48.632  27.280  1.00 36.52           C
ATOM   1709  OE1 GLU A 225      29.901  49.319  28.242  1.00 40.52           O
ATOM   1710  OE2 GLU A 225      31.310  49.028  26.532  1.00 41.63           O
ATOM   1711  N   CYS A 226      25.532  45.456  27.003  1.00 22.07           N
ATOM   1712  CA  CYS A 226      24.087  45.619  27.027  1.00 22.09           C
ATOM   1713  C   CYS A 226      23.372  44.631  27.935  1.00 21.89           C
ATOM   1714  O   CYS A 226      22.170  44.781  28.162  1.00 20.73           O
ATOM   1715  CB  CYS A 226      23.523  45.416  25.630  1.00 22.22           C
ATOM   1716  SG  CYS A 226      24.206  46.488  24.368  1.00 22.59           S
ATOM   1717  N   LEU A 227      24.102  43.633  28.451  1.00 22.08           N
ATOM   1718  CA  LEU A 227      23.467  42.529  29.169  1.00 22.08           C
ATOM   1719  C   LEU A 227      23.771  42.393  30.657  1.00 21.99           C
ATOM   1720  O   LEU A 227      23.118  41.611  31.373  1.00 22.28           O
ATOM   1721  CB  LEU A 227      23.751  41.244  28.418  1.00 22.29           C
ATOM   1722  CG  LEU A 227      22.874  41.185  27.158  1.00 23.54           C
ATOM   1723  CD1 LEU A 227      23.428  40.186  26.144  1.00 23.51           C
ATOM   1724  CD2 LEU A 227      21.423  40.819  27.544  1.00 24.49           C
ATOM   1725  N   TYR A 228      24.763  43.140  31.109  1.00 20.87           N
ATOM   1726  CA  TYR A 228      24.996  43.320  32.521  1.00 21.33           C
ATOM   1727  C   TYR A 228      25.018  42.057  33.382  1.00 21.27           C
ATOM   1728  O   TYR A 228      24.205  41.920  34.301  1.00 21.72           O
ATOM   1729  CB  TYR A 228      23.957  44.311  33.077  1.00 20.92           C
ATOM   1730  CG  TYR A 228      23.949  45.649  32.339  1.00 20.91           C
ATOM   1731  CD1 TYR A 228      24.768  46.677  32.739  1.00 18.87           C
ATOM   1732  CD2 TYR A 228      23.122  45.862  31.232  1.00 20.51           C
ATOM   1733  CE1 TYR A 228      24.780  47.912  32.076  1.00 20.36           C
ATOM   1734  CE2 TYR A 228      23.117  47.074  30.561  1.00 21.07           C
ATOM   1735  CZ  TYR A 228      23.931  48.113  31.000  1.00 20.84           C
ATOM   1736  OH  TYR A 228      23.947  49.325  30.336  1.00 19.16           O
ATOM   1737  N   PRO A 229      25.985  41.175  33.141  1.00 20.77           N
ATOM   1738  CA  PRO A 229      26.128  39.971  33.966  1.00 21.05           C
ATOM   1739  C   PRO A 229      26.428  40.332  35.408  1.00 20.08           C
ATOM   1740  O   PRO A 229      27.021  41.379  35.675  1.00 20.20           O
ATOM   1741  CB  PRO A 229      27.360  39.271  33.363  1.00 20.51           C
ATOM   1742  CG  PRO A 229      28.084  40.340  32.651  1.00 21.64           C
ATOM   1743  CD  PRO A 229      27.025  41.241  32.105  1.00 20.97           C
ATOM   1744  N   TYR A 230      25.988  39.490  36.326  1.00 19.73           N
ATOM   1745  CA  TYR A 230      26.282  39.656  37.724  1.00 18.80           C
ATOM   1746  C   TYR A 230      27.809  39.657  37.947  1.00 18.61           C
ATOM   1747  O   TYR A 230      28.575  39.250  37.094  1.00 18.26           O
ATOM   1748  CB  TYR A 230      25.669  38.507  38.520  1.00 18.86           C
ATOM   1749  CG  TYR A 230      24.172  38.597  38.725  1.00 19.28           C
ATOM   1750  CD1 TYR A 230      23.297  38.110  37.760  1.00 18.53           C
ATOM   1751  CD2 TYR A 230      23.629  39.172  39.885  1.00 19.38           C
ATOM   1752  CE1 TYR A 230      21.932  38.161  37.935  1.00 18.86           C
ATOM   1753  CE2 TYR A 230      22.234  39.222  40.076  1.00 19.53           C
ATOM   1754  CZ  TYR A 230      21.404  38.719  39.073  1.00 20.93           C
ATOM   1755  OH  TYR A 230      20.034  38.771  39.176  1.00 23.69           O
ATOM   1756  N   PRO A 231      28.251  40.137  39.098  1.00 18.40           N
ATOM   1757  CA  PRO A 231      29.651  39.983  39.476  1.00 18.58           C
ATOM   1758  C   PRO A 231      30.070  38.507  39.399  1.00 19.41           C
ATOM   1759  O   PRO A 231      29.240  37.624  39.654  1.00 18.89           O
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ATOM   1760  CB  PRO A 231      29.675  40.477  40.931  1.00 18.95           C
ATOM   1761  CG  PRO A 231      28.542  41.507  41.001  1.00 19.02           C
ATOM   1762  CD  PRO A 231      27.460  40.868  40.105  1.00 18.02           C
ATOM   1763  N   VAL A 232      31.335  38.248  39.071  1.00 19.55           N
ATOM   1764  CA  VAL A 232      31.826  36.884  38.969  1.00 20.65           C
ATOM   1765  C   VAL A 232      31.640  36.034  40.236  1.00 20.79           C
ATOM   1766  O   VAL A 232      31.379  34.838  40.145  1.00 21.82           O
ATOM   1767  CB  VAL A 232      33.318  36.869  38.545  1.00 20.71           C
ATOM   1768  CG1 VAL A 232      33.945  35.524  38.807  1.00 21.96           C
ATOM   1769  CG2 VAL A 232      33.452  37.225  37.075  1.00 20.83           C
ATOM   1770  N   HIS A 233      31.770  36.639  41.409  1.00 20.87           N
ATOM   1771  CA  HIS A 233      31.643  35.907  42.661  1.00 20.70           C
ATOM   1772  C   HIS A 233      30.203  35.739  43.168  1.00 20.59           C
ATOM   1773  O   HIS A 233      29.940  35.010  44.119  1.00 20.49           O
ATOM   1774  CB  HIS A 233      32.482  36.593  43.706  1.00 20.63           C
ATOM   1775  CG  HIS A 233      33.948  36.529  43.426  1.00 21.92           C
ATOM   1776  ND1 HIS A 233      34.659  37.595  42.913  1.00 22.17           N
ATOM   1777  CD2 HIS A 233      34.843  35.527  43.610  1.00 22.03           C
ATOM   1778  CE1 HIS A 233      35.929  37.249  42.793  1.00 23.69           C
ATOM   1779  NE2 HIS A 233      36.066  35.998  43.203  1.00 23.04           N
ATOM   1780  N   HIS A 234      29.273  36.433  42.543  1.00 20.53           N
ATOM   1781  CA  HIS A 234      27.869  36.251  42.857  1.00 20.60           C
ATOM   1782  C   HIS A 234      27.388  34.895  42.306  1.00 20.45           C
ATOM   1783  O   HIS A 234      27.873  34.428  41.291  1.00 19.86           O
ATOM   1784  CB  HIS A 234      27.088  37.359  42.206  1.00 20.65           C
ATOM   1785  CG  HIS A 234      25.661  37.441  42.625  1.00 20.68           C
ATOM   1786  ND1 HIS A 234      24.667  36.700  42.021  1.00 21.46           N
ATOM   1787  CD2 HIS A 234      25.044  38.249  43.518  1.00 20.20           C
ATOM   1788  CE1 HIS A 234      23.504  37.013  42.563  1.00 21.99           C
ATOM   1789  NE2 HIS A 234      23.707  37.951  43.473  1.00 21.29           N
ATOM   1790  N   PRO A 235      26.463  34.261  43.007  1.00 20.40           N
ATOM   1791  CA  PRO A 235      25.888  32.993  42.572  1.00 20.85           C
ATOM   1792  C   PRO A 235      25.360  33.021  41.152  1.00 21.20           C
ATOM   1793  O   PRO A 235      25.437  31.984  40.502  1.00 20.43           O
ATOM   1794  CB  PRO A 235      24.756  32.771  43.575  1.00 21.58           C
ATOM   1795  CG  PRO A 235      25.273  33.452  44.826  1.00 20.78           C
ATOM   1796  CD  PRO A 235      25.941  34.685  44.317  1.00 20.56           C
ATOM   1797  N   CYS A 236      24.905  34.173  40.663  1.00 20.46           N
ATOM   1798  CA  CYS A 236      24.379  34.235  39.308  1.00 20.63           C
ATOM   1799  C   CYS A 236      25.430  34.707  38.301  1.00 20.58           C
ATOM   1800  O   CYS A 236      25.110  35.283  37.258  1.00 21.60           O
ATOM   1801  CB  CYS A 236      23.114  35.084  39.268  1.00 20.06           C
ATOM   1802  SG  CYS A 236      21.824  34.377  40.326  1.00 21.70           S
ATOM   1803  N   ASP A 237      26.693  34.474  38.629  1.00 20.17           N
ATOM   1804  CA  ASP A 237      27.785  34.632  37.679  1.00 19.98           C
ATOM   1805  C   ASP A 237      27.381  34.050  36.313  1.00 19.79           C
ATOM   1806  O   ASP A 237      26.830  32.950  36.234  1.00 19.19           O
ATOM   1807  CB  ASP A 237      28.997  33.872  38.200  1.00 19.91           C
ATOM   1808  CG  ASP A 237      30.209  33.968  37.290  1.00 21.43           C
ATOM   1809  OD1 ASP A 237      30.407  35.010  36.546  1.00 18.96           O
ATOM   1810  OD2 ASP A 237      31.039  33.017  37.288  1.00 18.57           O
ATOM   1811  N   ARG A 238      27.664  34.812  35.263  1.00 20.18           N
ATOM   1812  CA  ARG A 238      27.365  34.473  33.865  1.00 21.48           C
ATOM   1813  C   ARG A 238      25.905  34.713  33.444  1.00 20.90           C
ATOM   1814  O   ARG A 238      25.600  34.619  32.269  1.00 21.92           O
ATOM   1815  CB  ARG A 238      27.765  33.024  33.531  1.00 21.70           C
ATOM   1816  CG  ARG A 238      29.245  32.739  33.699  1.00 22.10           C
ATOM   1817  CD  ARG A 238      29.612  31.313  33.329  1.00 23.08           C
ATOM   1818  NE  ARG A 238      28.988  30.409  34.278  1.00 25.97           N
ATOM   1819  CZ  ARG A 238      27.863  29.725  34.066  1.00 27.01           C
ATOM   1820  NH1 ARG A 238      27.208  29.799  32.904  1.00 24.08           N
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ATOM   1821  NH2 ARG A 238      27.399  28.949  35.036  1.00 27.47           N
ATOM   1822  N   GLN A 239      25.021  35.028  34.375  1.00 20.56           N
ATOM   1823  CA  GLN A 239      23.641  35.334  34.014  1.00 21.11           C
ATOM   1824  C   GLN A 239      23.459  36.865  33.920  1.00 20.84           C
ATOM   1825  O   GLN A 239      24.145  37.624  34.610  1.00 21.25           O
ATOM   1826  CB  GLN A 239      22.646  34.776  35.027  1.00 20.14           C
ATOM   1827  CG  GLN A 239      23.052  33.505  35.726  1.00 22.87           C
ATOM   1828  CD  GLN A 239      23.281  32.320  34.807  1.00 23.97           C
ATOM   1829  OE1 GLN A 239      22.367  31.842  34.132  1.00 23.63           O
ATOM   1830  NE2 GLN A 239      24.502  31.834  34.796  1.00 24.34           N
ATOM   1831  N   SER A 240      22.541  37.307  33.071  1.00 20.31           N
ATOM   1832  CA  SER A 240      22.246  38.725  32.926  1.00 19.92           C
ATOM   1833  C   SER A 240      21.448  39.218  34.119  1.00 20.07           C
ATOM   1834  O   SER A 240      20.538  38.533  34.564  1.00 19.79           O
ATOM   1835  CB  SER A 240      21.384  38.953  31.700  1.00 19.45           C
ATOM   1836  OG  SER A 240      21.018  40.312  31.564  1.00 20.53           O
ATOM   1837  N   GLN A 241      21.763  40.408  34.623  1.00 19.46           N
ATOM   1838  CA  GLN A 241      20.962  40.988  35.701  1.00 20.32           C
ATOM   1839  C   GLN A 241      19.657  41.569  35.175  1.00 20.51           C
ATOM   1840  O   GLN A 241      18.808  41.956  35.959  1.00 21.06           O
ATOM   1841  CB  GLN A 241      21.697  42.141  36.417  1.00 20.15           C
ATOM   1842  CG  GLN A 241      22.910  41.749  37.230  1.00 21.41           C
ATOM   1843  CD  GLN A 241      23.690  42.980  37.695  1.00 22.76           C
ATOM   1844  OE1 GLN A 241      23.455  43.481  38.775  1.00 24.42           O
ATOM   1845  NE2 GLN A 241      24.585  43.465  36.871  1.00 21.93           N
ATOM   1846  N   VAL A 242      19.489  41.678  33.862  1.00 20.66           N
ATOM   1847  CA  VAL A 242      18.309  42.355  33.372  1.00 20.76           C
ATOM   1848  C   VAL A 242      17.089  41.465  33.391  1.00 21.26           C
ATOM   1849  O   VAL A 242      17.119  40.352  32.871  1.00 21.01           O
ATOM   1850  CB  VAL A 242      18.476  42.813  31.909  1.00 20.97           C
ATOM   1851  CG1 VAL A 242      17.194  43.502  31.431  1.00 21.21           C
ATOM   1852  CG2 VAL A 242      19.687  43.704  31.716  1.00 18.95           C
ATOM   1853  N   ASP A 243      16.001  41.960  33.958  1.00 21.16           N
ATOM   1854  CA  ASP A 243      14.730  41.223  33.907  1.00 21.36           C
ATOM   1855  C   ASP A 243      14.091  41.523  32.552  1.00 21.20           C
ATOM   1856  O   ASP A 243      13.566  42.631  32.310  1.00 19.97           O
ATOM   1857  CB  ASP A 243      13.840  41.682  35.054  1.00 21.65           C
ATOM   1858  CG  ASP A 243      12.474  41.051  35.037  1.00 22.45           C
ATOM   1859  OD1 ASP A 243      12.122  40.338  34.070  1.00 25.16           O
ATOM   1860  OD2 ASP A 243      11.671  41.232  35.978  1.00 25.29           O
ATOM   1861  N   PHE A 244      14.182  40.554  31.650  1.00 21.28           N
ATOM   1862  CA  PHE A 244      13.687  40.733  30.291  1.00 21.65           C
ATOM   1863  C   PHE A 244      12.202  41.074  30.274  1.00 22.36           C
ATOM   1864  O   PHE A 244      11.733  41.653  29.304  1.00 22.09           O
ATOM   1865  CB  PHE A 244      13.915  39.478  29.442  1.00 22.22           C
ATOM   1866  CG  PHE A 244      15.284  39.370  28.815  1.00 21.43           C
ATOM   1867  CD1 PHE A 244      16.414  39.800  29.465  1.00 20.12           C
ATOM   1868  CD2 PHE A 244      15.422  38.778  27.575  1.00 21.05           C
ATOM   1869  CE1 PHE A 244      17.655  39.671  28.873  1.00 20.83           C
ATOM   1870  CE2 PHE A 244      16.645  38.643  26.993  1.00 21.47           C
ATOM   1871  CZ  PHE A 244      17.767  39.104  27.633  1.00 20.74           C
ATOM   1872  N   ASP A 245      11.464  40.696  31.322  1.00 23.26           N
ATOM   1873  CA  ASP A 245      10.035  40.973  31.393  1.00 24.31           C
ATOM   1874  C   ASP A 245       9.756  42.401  31.877  1.00 25.05           C
ATOM   1875  O   ASP A 245       8.679  42.916  31.646  1.00 24.27           O
ATOM   1876  CB  ASP A 245       9.333  40.004  32.348  1.00 24.79           C
ATOM   1877  CG  ASP A 245       9.397  38.571  31.887  1.00 25.46           C
ATOM   1878  OD1 ASP A 245       9.409  38.342  30.663  1.00 27.47           O
ATOM   1879  OD2 ASP A 245       9.445  37.610  32.678  1.00 25.22           O
ATOM   1880  N   ASN A 246      10.702  43.006  32.589  1.00 25.30           N
ATOM   1881  CA  ASN A 246      10.531  44.365  33.099  1.00 26.37           C
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ATOM   1882  C   ASN A 246      11.876  45.054  33.204  1.00 25.61           C
ATOM   1883  O   ASN A 246      12.436  45.192  34.282  1.00 26.05           O
ATOM   1884  CB  ASN A 246       9.871  44.360  34.472  1.00 26.89           C
ATOM   1885  CG  ASN A 246       9.545  45.770  34.958  1.00 30.93           C
ATOM   1886  OD1 ASN A 246       9.353  46.701  34.150  1.00 35.10           O
ATOM   1887  ND2 ASN A 246       9.493  45.943  36.281  1.00 35.04           N
ATOM   1888  N   PRO A 247      12.415  45.450  32.068  1.00 24.71           N
ATOM   1889  CA  PRO A 247      13.775  45.979  32.026  1.00 24.24           C
ATOM   1890  C   PRO A 247      13.909  47.352  32.684  1.00 24.48           C
ATOM   1891  O   PRO A 247      13.189  48.296  32.374  1.00 23.54           O
ATOM   1892  CB  PRO A 247      14.109  46.036  30.538  1.00 24.23           C
ATOM   1893  CG  PRO A 247      12.900  45.524  29.803  1.00 25.13           C
ATOM   1894  CD  PRO A 247      11.769  45.385  30.752  1.00 24.61           C
ATOM   1895  N   ASP A 248      14.867  47.437  33.593  1.00 24.04           N
ATOM   1896  CA  ASP A 248      15.140  48.656  34.285  1.00 24.53           C
ATOM   1897  C   ASP A 248      16.206  49.440  33.496  1.00 24.15           C
ATOM   1898  O   ASP A 248      17.410  49.221  33.629  1.00 23.11           O
ATOM   1899  CB  ASP A 248      15.609  48.312  35.689  1.00 24.75           C
ATOM   1900  CG  ASP A 248      15.731  49.512  36.554  1.00 26.08           C
ATOM   1901  OD1 ASP A 248      15.956  50.616  36.009  1.00 27.08           O
ATOM   1902  OD2 ASP A 248      15.623  49.439  37.797  1.00 30.33           O
ATOM   1903  N   TYR A 249      15.735  50.329  32.642  1.00 24.42           N
ATOM   1904  CA  TYR A 249      16.612  51.129  31.807  1.00 25.30           C
ATOM   1905  C   TYR A 249      17.462  52.136  32.589  1.00 26.13           C
ATOM   1906  O   TYR A 249      18.495  52.584  32.083  1.00 26.46           O
ATOM   1907  CB  TYR A 249      15.796  51.826  30.713  1.00 25.41           C
ATOM   1908  CG  TYR A 249      15.119  50.853  29.768  1.00 22.90           C
ATOM   1909  CD1 TYR A 249      15.844  49.873  29.130  1.00 22.91           C
ATOM   1910  CD2 TYR A 249      13.760  50.923  29.519  1.00 22.21           C
ATOM   1911  CE1 TYR A 249      15.238  48.964  28.271  1.00 22.19           C
ATOM   1912  CE2 TYR A 249      13.144  50.023  28.660  1.00 21.56           C
ATOM   1913  CZ  TYR A 249      13.895  49.044  28.046  1.00 21.23           C
ATOM   1914  OH  TYR A 249      13.304  48.163  27.173  1.00 23.38           O
ATOM   1915  N   GLU A 250      17.071  52.465  33.822  1.00 26.65           N
ATOM   1916  CA  GLU A 250      17.894  53.365  34.640  1.00 27.47           C
ATOM   1917  C   GLU A 250      19.161  52.651  35.086  1.00 26.52           C
ATOM   1918  O   GLU A 250      20.238  53.224  35.086  1.00 27.17           O
ATOM   1919  CB  GLU A 250      17.133  53.908  35.866  1.00 27.89           C
ATOM   1920  CG  GLU A 250      15.880  54.684  35.485  1.00 32.57           C
ATOM   1921  CD  GLU A 250      15.258  55.459  36.631  1.00 37.09           C
ATOM   1922  OE1 GLU A 250      15.809  55.491  37.753  1.00 42.28           O
ATOM   1923  OE2 GLU A 250      14.198  56.055  36.399  1.00 42.29           O
ATOM   1924  N   ARG A 251      19.042  51.399  35.490  1.00 25.57           N
ATOM   1925  CA  ARG A 251      20.224  50.657  35.900  1.00 24.72           C
ATOM   1926  C   ARG A 251      20.955  50.069  34.718  1.00 23.56           C
ATOM   1927  O   ARG A 251      22.150  49.919  34.769  1.00 22.92           O
ATOM   1928  CB  ARG A 251      19.845  49.520  36.845  1.00 25.64           C
ATOM   1929  CG  ARG A 251      19.435  49.957  38.255  1.00 26.79           C
ATOM   1930  CD  ARG A 251      18.858  48.815  39.123  1.00 30.01           C
ATOM   1931  NE  ARG A 251      19.900  47.875  39.540  1.00 31.06           N
ATOM   1932  CZ  ARG A 251      19.709  46.579  39.766  1.00 32.72           C
ATOM   1933  NH1 ARG A 251      18.508  46.029  39.628  1.00 33.10           N
ATOM   1934  NH2 ARG A 251      20.734  45.828  40.135  1.00 33.44           N
ATOM   1935  N   PHE A 252      20.234  49.725  33.652  1.00 22.66           N
ATOM   1936  CA  PHE A 252      20.826  49.019  32.532  1.00 21.99           C
ATOM   1937  C   PHE A 252      20.521  49.719  31.198  1.00 21.71           C
ATOM   1938  O   PHE A 252      19.900  49.160  30.289  1.00 21.32           O
ATOM   1939  CB  PHE A 252      20.261  47.610  32.519  1.00 22.03           C
ATOM   1940  CG  PHE A 252      20.292  46.915  33.868  1.00 21.75           C
ATOM   1941  CD1 PHE A 252      21.484  46.729  34.556  1.00 20.90           C
ATOM   1942  CD2 PHE A 252      19.124  46.402  34.423  1.00 21.94           C
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ATOM   1943  CE1 PHE A 252      21.506  46.040  35.785  1.00 20.51           C
ATOM   1944  CE2 PHE A 252      19.136  45.730  35.662  1.00 21.77           C
ATOM   1945  CZ  PHE A 252      20.320  45.553  36.333  1.00 21.41           C
ATOM   1946  N   PRO A 253      20.989  50.944  31.071  1.00 20.88           N
ATOM   1947  CA  PRO A 253      20.615  51.754  29.909  1.00 20.51           C
ATOM   1948  C   PRO A 253      20.956  51.077  28.578  1.00 20.47           C
ATOM   1949  O   PRO A 253      20.153  51.159  27.656  1.00 20.01           O
ATOM   1950  CB  PRO A 253      21.371  53.077  30.130  1.00 20.00           C
ATOM   1951  CG  PRO A 253      22.538  52.697  31.136  1.00 20.46           C
ATOM   1952  CD  PRO A 253      21.921  51.641  31.994  1.00 20.89           C
ATOM   1953  N   ASN A 254      22.088  50.393  28.455  1.00 20.68           N
ATOM   1954  CA  ASN A 254      22.401  49.805  27.160  1.00 20.72           C
ATOM   1955  C   ASN A 254      21.537  48.601  26.790  1.00 20.29           C
ATOM   1956  O   ASN A 254      21.644  48.068  25.688  1.00 20.03           O
ATOM   1957  CB  ASN A 254      23.882  49.463  27.033  1.00 20.89           C
ATOM   1958  CG  ASN A 254      24.736  50.698  26.899  1.00 22.24           C
ATOM   1959  OD1 ASN A 254      25.532  50.999  27.785  1.00 24.48           O
ATOM   1960  ND2 ASN A 254      24.557  51.446  25.791  1.00 22.23           N
ATOM   1961  N   PHE A 255      20.678  48.160  27.690  1.00 20.01           N
ATOM   1962  CA  PHE A 255      19.781  47.086  27.305  1.00 20.02           C
ATOM   1963  C   PHE A 255      18.855  47.599  26.185  1.00 20.33           C
ATOM   1964  O   PHE A 255      18.224  46.818  25.472  1.00 19.82           O
ATOM   1965  CB  PHE A 255      18.970  46.552  28.484  1.00 19.63           C
ATOM   1966  CG  PHE A 255      18.239  45.318  28.145  1.00 18.96           C
ATOM   1967  CD1 PHE A 255      18.928  44.149  27.930  1.00 19.50           C
ATOM   1968  CD2 PHE A 255      16.889  45.335  27.942  1.00 17.83           C
ATOM   1969  CE1 PHE A 255      18.267  42.997  27.575  1.00 20.08           C
ATOM   1970  CE2 PHE A 255      16.230  44.206  27.561  1.00 17.77           C
ATOM   1971  CZ  PHE A 255      16.912  43.036  27.381  1.00 21.57           C
ATOM   1972  N   GLN A 256      18.788  48.919  26.035  1.00 20.15           N
ATOM   1973  CA  GLN A 256      17.973  49.533  24.986  1.00 20.63           C
ATOM   1974  C   GLN A 256      18.594  49.343  23.591  1.00 20.12           C
ATOM   1975  O   GLN A 256      17.955  49.612  22.592  1.00 19.87           O
ATOM   1976  CB  GLN A 256      17.787  51.036  25.272  1.00 20.67           C
ATOM   1977  CG  GLN A 256      16.744  51.306  26.362  1.00 22.56           C
ATOM   1978  CD  GLN A 256      16.747  52.732  26.888  1.00 22.75           C
ATOM   1979  OE1 GLN A 256      15.727  53.420  26.816  1.00 24.69           O
ATOM   1980  NE2 GLN A 256      17.873  53.172  27.419  1.00 23.90           N
ATOM   1981  N   ASN A 257      19.850  48.915  23.553  1.00 20.07           N
ATOM   1982  CA  ASN A 257      20.583  48.700  22.310  1.00 20.66           C
ATOM   1983  C   ASN A 257      20.778  47.233  21.963  1.00 21.21           C
ATOM   1984  O   ASN A 257      21.446  46.921  20.979  1.00 21.28           O
ATOM   1985  CB  ASN A 257      21.975  49.300  22.420  1.00 20.31           C
ATOM   1986  CG  ASN A 257      21.937  50.757  22.776  1.00 20.83           C
ATOM   1987  OD1 ASN A 257      22.395  51.141  23.850  1.00 20.15           O
ATOM   1988  ND2 ASN A 257      21.366  51.577  21.889  1.00 16.99           N
ATOM   1989  N   VAL A 258      20.218  46.333  22.758  1.00 21.91           N
ATOM   1990  CA  VAL A 258      20.440  44.908  22.532  1.00 23.55           C
ATOM   1991  C   VAL A 258      19.720  44.400  21.284  1.00 24.29           C
ATOM   1992  O   VAL A 258      18.600  44.845  20.947  1.00 24.28           O
ATOM   1993  CB  VAL A 258      20.026  44.110  23.772  1.00 24.18           C
ATOM   1994  CG1 VAL A 258      18.529  43.868  23.785  1.00 23.69           C
ATOM   1995  CG2 VAL A 258      20.761  42.851  23.826  1.00 28.07           C
ATOM   1996  N   VAL A 259      20.381  43.506  20.562  1.00 24.48           N
ATOM   1997  CA  VAL A 259      19.787  42.922  19.364  1.00 25.21           C
ATOM   1998  C   VAL A 259      20.104  41.427  19.331  1.00 25.19           C
ATOM   1999  O   VAL A 259      21.260  41.046  19.333  1.00 25.58           O
ATOM   2000  CB  VAL A 259      20.345  43.551  18.094  1.00 25.37           C
ATOM   2001  CG1 VAL A 259      19.726  42.893  16.882  1.00 27.15           C
ATOM   2002  CG2 VAL A 259      20.074  45.059  18.066  1.00 25.97           C
ATOM   2003  N   GLY A 260      19.068  40.603  19.308  1.00 25.20           N
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ATOM   2004  CA  GLY A 260      19.214  39.161  19.312  1.00 25.52           C
ATOM   2005  C   GLY A 260      19.108  38.433  17.961  1.00 25.26           C
ATOM   2006  O   GLY A 260      18.762  39.016  16.914  1.00 24.66           O
ATOM   2007  N   TYR A 261      19.484  37.160  18.015  1.00 24.49           N
ATOM   2008  CA  TYR A 261      19.379  36.217  16.925  1.00 25.05           C
ATOM   2009  C   TYR A 261      18.435  35.145  17.475  1.00 24.39           C
ATOM   2010  O   TYR A 261      18.671  34.620  18.552  1.00 23.82           O
ATOM   2011  CB  TYR A 261      20.730  35.574  16.627  1.00 25.82           C
ATOM   2012  CG  TYR A 261      21.748  36.476  15.965  1.00 28.98           C
ATOM   2013  CD1 TYR A 261      21.804  36.598  14.585  1.00 35.41           C
ATOM   2014  CD2 TYR A 261      22.649  37.194  16.712  1.00 29.78           C
ATOM   2015  CE1 TYR A 261      22.737  37.429  13.976  1.00 35.73           C
ATOM   2016  CE2 TYR A 261      23.592  37.994  16.126  1.00 32.54           C
ATOM   2017  CZ  TYR A 261      23.643  38.116  14.768  1.00 35.98           C
ATOM   2018  OH  TYR A 261      24.580  38.959  14.202  1.00 38.02           O
ATOM   2019  N   GLU A 262      17.353  34.823  16.790  1.00 24.04           N
ATOM   2020  CA  GLU A 262      16.432  33.860  17.387  1.00 23.96           C
ATOM   2021  C   GLU A 262      15.992  32.773  16.435  1.00 23.90           C
ATOM   2022  O   GLU A 262      16.116  32.890  15.213  1.00 23.56           O
ATOM   2023  CB  GLU A 262      15.224  34.553  18.020  1.00 23.70           C
ATOM   2024  CG  GLU A 262      14.029  34.782  17.127  1.00 24.33           C
ATOM   2025  CD  GLU A 262      12.829  35.382  17.870  1.00 26.49           C
ATOM   2026  OE1 GLU A 262      12.753  36.611  18.029  1.00 27.38           O
ATOM   2027  OE2 GLU A 262      11.946  34.631  18.306  1.00 28.26           O
ATOM   2028  N   THR A 263      15.485  31.713  17.034  1.00 23.68           N
ATOM   2029  CA  THR A 263      14.974  30.605  16.279  1.00 24.40           C
ATOM   2030  C   THR A 263      14.091  29.786  17.193  1.00 24.29           C
ATOM   2031  O   THR A 263      14.131  29.936  18.423  1.00 24.53           O
ATOM   2032  CB  THR A 263      16.148  29.762  15.751  1.00 24.52           C
ATOM   2033  OG1 THR A 263      15.684  28.839  14.762  1.00 24.43           O
ATOM   2034  CG2 THR A 263      16.737  28.876  16.854  1.00 24.33           C
ATOM   2035  N   VAL A 264      13.263  28.954  16.593  1.00 23.62           N
ATOM   2036  CA  VAL A 264      12.500  28.019  17.370  1.00 24.01           C
ATOM   2037  C   VAL A 264      12.936  26.627  16.935  1.00 24.53           C
ATOM   2038  O   VAL A 264      12.879  26.291  15.768  1.00 24.27           O
ATOM   2039  CB  VAL A 264      11.008  28.194  17.177  1.00 24.69           C
ATOM   2040  CG1 VAL A 264      10.256  26.958  17.712  1.00 23.69           C
ATOM   2041  CG2 VAL A 264      10.520  29.526  17.857  1.00 23.81           C
ATOM   2042  N   VAL A 265      13.450  25.844  17.872  1.00 24.91           N
ATOM   2043  CA  VAL A 265      13.833  24.484  17.540  1.00 24.93           C
ATOM   2044  C   VAL A 265      12.792  23.470  17.967  1.00 24.20           C
ATOM   2045  O   VAL A 265      12.167  23.617  19.018  1.00 24.01           O
ATOM   2046  CB  VAL A 265      15.196  24.072  18.173  1.00 25.05           C
ATOM   2047  CG1 VAL A 265      16.291  24.884  17.557  1.00 26.38           C
ATOM   2048  CG2 VAL A 265      15.190  24.164  19.702  1.00 23.59           C
ATOM   2049  N   GLY A 266      12.641  22.439  17.144  1.00 23.26           N
ATOM   2050  CA  GLY A 266      11.776  21.316  17.451  1.00 23.22           C
ATOM   2051  C   GLY A 266      12.467  19.961  17.359  1.00 22.26           C
ATOM   2052  O   GLY A 266      13.661  19.872  17.131  1.00 22.37           O
ATOM   2053  N   PRO A 267      11.712  18.884  17.524  1.00 21.90           N
ATOM   2054  CA  PRO A 267      12.305  17.544  17.479  1.00 21.60           C
ATOM   2055  C   PRO A 267      13.206  17.355  16.280  1.00 20.82           C
ATOM   2056  O   PRO A 267      12.768  17.588  15.169  1.00 20.29           O
ATOM   2057  CB  PRO A 267      11.086  16.622  17.364  1.00 21.36           C
ATOM   2058  CG  PRO A 267      10.023  17.330  18.028  1.00 23.23           C
ATOM   2059  CD  PRO A 267      10.254  18.831  17.753  1.00 21.99           C
ATOM   2060  N   GLY A 268      14.445  16.938  16.496  1.00 20.81           N
ATOM   2061  CA  GLY A 268      15.340  16.674  15.383  1.00 20.31           C
ATOM   2062  C   GLY A 268      16.296  17.806  15.111  1.00 20.37           C
ATOM   2063  O   GLY A 268      17.333  17.605  14.476  1.00 21.79           O
ATOM   2064  N   ASP A 269      15.975  19.002  15.582  1.00 19.89           N
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ATOM   2065  CA  ASP A 269      16.849  20.141  15.364  1.00 19.78           C
ATOM   2066  C   ASP A 269      17.991  20.162  16.395  1.00 19.63           C
ATOM   2067  O   ASP A 269      17.829  19.729  17.551  1.00 18.28           O
ATOM   2068  CB  ASP A 269      16.069  21.436  15.532  1.00 20.34           C
ATOM   2069  CG  ASP A 269      14.976  21.636  14.500  1.00 20.66           C
ATOM   2070  OD1 ASP A 269      14.977  21.015  13.419  1.00 22.15           O
ATOM   2071  OD2 ASP A 269      14.072  22.454  14.703  1.00 23.30           O
ATOM   2072  N   VAL A 270      19.129  20.681  15.953  1.00 19.76           N
ATOM   2073  CA  VAL A 270      20.304  20.879  16.782  1.00 20.24           C
ATOM   2074  C   VAL A 270      20.793  22.318  16.601  1.00 19.84           C
ATOM   2075  O   VAL A 270      21.052  22.754  15.487  1.00 19.90           O
ATOM   2076  CB  VAL A 270      21.421  19.942  16.377  1.00 20.08           C
ATOM   2077  CG1 VAL A 270      22.676  20.288  17.121  1.00 21.38           C
ATOM   2078  CG2 VAL A 270      21.017  18.521  16.671  1.00 21.15           C
ATOM   2079  N   LEU A 271      20.885  23.056  17.699  1.00 19.86           N
ATOM   2080  CA  LEU A 271      21.341  24.427  17.656  1.00 20.03           C
ATOM   2081  C   LEU A 271      22.757  24.465  18.202  1.00 20.23           C
ATOM   2082  O   LEU A 271      23.032  23.946  19.276  1.00 19.73           O
ATOM   2083  CB  LEU A 271      20.429  25.328  18.465  1.00 20.59           C
ATOM   2084  CG  LEU A 271      20.934  26.742  18.724  1.00 20.93           C
ATOM   2085  CD1 LEU A 271      21.011  27.562  17.431  1.00 20.35           C
ATOM   2086  CD2 LEU A 271      20.039  27.428  19.728  1.00 22.31           C
ATOM   2087  N   TYR A 272      23.669  25.024  17.416  1.00 20.58           N
ATOM   2088  CA  TYR A 272      25.010  25.229  17.883  1.00 20.58           C
ATOM   2089  C   TYR A 272      24.985  26.535  18.653  1.00 20.69           C
ATOM   2090  O   TYR A 272      24.692  27.576  18.089  1.00 21.54           O
ATOM   2091  CB  TYR A 272      26.004  25.312  16.728  1.00 20.30           C
ATOM   2092  CG  TYR A 272      27.381  25.776  17.158  1.00 21.24           C
ATOM   2093  CD1 TYR A 272      27.997  25.250  18.275  1.00 21.70           C
ATOM   2094  CD2 TYR A 272      28.039  26.788  16.472  1.00 22.21           C
ATOM   2095  CE1 TYR A 272      29.232  25.692  18.674  1.00 21.69           C
ATOM   2096  CE2 TYR A 272      29.275  27.215  16.857  1.00 22.99           C
ATOM   2097  CZ  TYR A 272      29.868  26.672  17.961  1.00 22.01           C
ATOM   2098  OH  TYR A 272      31.109  27.111  18.352  1.00 22.77           O
ATOM   2099  N   ILE A 273      25.216  26.454  19.951  1.00 21.22           N
ATOM   2100  CA  ILE A 273      25.362  27.629  20.805  1.00 21.49           C
ATOM   2101  C   ILE A 273      26.852  27.809  21.117  1.00 22.00           C
ATOM   2102  O   ILE A 273      27.413  27.112  21.962  1.00 22.55           O
ATOM   2103  CB  ILE A 273      24.607  27.471  22.073  1.00 21.14           C
ATOM   2104  CG1 ILE A 273      23.148  27.132  21.776  1.00 21.68           C
ATOM   2105  CG2 ILE A 273      24.661  28.791  22.854  1.00 21.75           C
ATOM   2106  CD1 ILE A 273      22.318  26.972  23.026  1.00 21.44           C
ATOM   2107  N   PRO A 274      27.493  28.723  20.413  1.00 21.86           N
ATOM   2108  CA  PRO A 274      28.929  28.916  20.557  1.00 22.49           C
ATOM   2109  C   PRO A 274      29.278  29.462  21.926  1.00 22.77           C
ATOM   2110  O   PRO A 274      28.510  30.231  22.521  1.00 21.72           O
ATOM   2111  CB  PRO A 274      29.305  29.908  19.429  1.00 23.00           C
ATOM   2112  CG  PRO A 274      28.022  30.225  18.658  1.00 23.03           C
ATOM   2113  CD  PRO A 274      26.889  29.582  19.398  1.00 22.21           C
ATOM   2114  N   MET A 275      30.441  29.028  22.404  1.00 22.72           N
ATOM   2115  CA  MET A 275      30.962  29.403  23.702  1.00 23.40           C
ATOM   2116  C   MET A 275      30.949  30.921  23.864  1.00 22.42           C
ATOM   2117  O   MET A 275      31.282  31.636  22.937  1.00 20.73           O
ATOM   2118  CB  MET A 275      32.373  28.856  23.826  1.00 23.99           C
ATOM   2119  CG  MET A 275      32.933  28.944  25.203  1.00 28.99           C
ATOM   2120  SD  MET A 275      34.517  28.083  25.337  1.00 35.05           S
ATOM   2121  CE  MET A 275      35.287  28.525  23.832  1.00 31.30           C
ATOM   2122  N   TYR A 276      30.509  31.388  25.030  1.00 22.30           N
ATOM   2123  CA  TYR A 276      30.419  32.831  25.349  1.00 23.06           C
ATOM   2124  C   TYR A 276      29.221  33.543  24.752  1.00 22.11           C
ATOM   2125  O   TYR A 276      29.012  34.705  25.041  1.00 21.84           O
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ATOM   2126  CB  TYR A 276      31.673  33.594  24.934  1.00 23.42           C
ATOM   2127  CG  TYR A 276      32.857  33.283  25.796  1.00 28.51           C
ATOM   2128  CD1 TYR A 276      32.969  33.799  27.072  1.00 33.00           C
ATOM   2129  CD2 TYR A 276      33.876  32.460  25.321  1.00 34.41           C
ATOM   2130  CE1 TYR A 276      34.066  33.490  27.877  1.00 36.36           C
ATOM   2131  CE2 TYR A 276      34.968  32.151  26.102  1.00 36.45           C
ATOM   2132  CZ  TYR A 276      35.059  32.651  27.371  1.00 37.63           C
ATOM   2133  OH  TYR A 276      36.192  32.314  28.077  1.00 40.88           O
ATOM   2134  N   TRP A 277      28.455  32.878  23.906  1.00 20.75           N
ATOM   2135  CA  TRP A 277      27.272  33.528  23.360  1.00 20.85           C
ATOM   2136  C   TRP A 277      26.173  33.482  24.372  1.00 20.33           C
ATOM   2137  O   TRP A 277      25.907  32.431  24.949  1.00 20.72           O
ATOM   2138  CB  TRP A 277      26.791  32.874  22.068  1.00 20.13           C
ATOM   2139  CG  TRP A 277      27.552  33.323  20.879  1.00 19.28           C
ATOM   2140  CD1 TRP A 277      28.887  33.175  20.673  1.00 21.27           C
ATOM   2141  CD2 TRP A 277      27.042  33.995  19.730  1.00 20.60           C
ATOM   2142  NE1 TRP A 277      29.246  33.721  19.467  1.00 21.05           N
ATOM   2143  CE2 TRP A 277      28.128  34.232  18.864  1.00 21.04           C
ATOM   2144  CE3 TRP A 277      25.780  34.456  19.352  1.00 21.08           C
ATOM   2145  CZ2 TRP A 277      27.989  34.893  17.643  1.00 20.38           C
ATOM   2146  CZ3 TRP A 277      25.641  35.110  18.122  1.00 20.48           C
ATOM   2147  CH2 TRP A 277      26.736  35.306  17.288  1.00 21.03           C
ATOM   2148  N   TRP A 278      25.572  34.632  24.629  1.00 19.39           N
ATOM   2149  CA  TRP A 278      24.430  34.711  25.521  1.00 19.80           C
ATOM   2150  C   TRP A 278      23.243  33.927  24.927  1.00 20.18           C
ATOM   2151  O   TRP A 278      23.019  33.939  23.732  1.00 21.04           O
ATOM   2152  CB  TRP A 278      23.989  36.168  25.646  1.00 20.39           C
ATOM   2153  CG  TRP A 278      24.979  37.031  26.300  1.00 21.20           C
ATOM   2154  CD1 TRP A 278      26.022  37.672  25.720  1.00 21.06           C
ATOM   2155  CD2 TRP A 278      25.056  37.301  27.691  1.00 20.38           C
ATOM   2156  NE1 TRP A 278      26.725  38.369  26.668  1.00 22.44           N
ATOM   2157  CE2 TRP A 278      26.139  38.155  27.891  1.00 21.86           C
ATOM   2158  CE3 TRP A 278      24.282  36.937  28.789  1.00 21.09           C
ATOM   2159  CZ2 TRP A 278      26.480  38.640  29.147  1.00 21.13           C
ATOM   2160  CZ3 TRP A 278      24.623  37.412  30.019  1.00 23.38           C
ATOM   2161  CH2 TRP A 278      25.704  38.258  30.194  1.00 21.06           C
ATOM   2162  N   HIS A 279      22.465  33.278  25.761  1.00 20.76           N
ATOM   2163  CA  HIS A 279      21.262  32.646  25.294  1.00 21.56           C
ATOM   2164  C   HIS A 279      20.198  32.659  26.361  1.00 21.24           C
ATOM   2165  O   HIS A 279      20.475  32.456  27.540  1.00 21.63           O
ATOM   2166  CB  HIS A 279      21.501  31.203  24.819  1.00 21.83           C
ATOM   2167  CG  HIS A 279      22.342  30.379  25.738  1.00 23.50           C
ATOM   2168  ND1 HIS A 279      23.713  30.494  25.785  1.00 24.98           N
ATOM   2169  CD2 HIS A 279      22.017  29.385  26.602  1.00 26.21           C
ATOM   2170  CE1 HIS A 279      24.200  29.599  26.628  1.00 26.46           C
ATOM   2171  NE2 HIS A 279      23.192  28.927  27.158  1.00 25.14           N
ATOM   2172  N   HIS A 280      18.994  32.900  25.874  1.00 21.71           N
ATOM   2173  CA  HIS A 280      17.736  32.956  26.602  1.00 21.78           C
ATOM   2174  C   HIS A 280      16.890  31.860  25.951  1.00 21.70           C
ATOM   2175  O   HIS A 280      16.722  31.846  24.736  1.00 21.40           O
ATOM   2176  CB  HIS A 280      17.104  34.322  26.374  1.00 21.20           C
ATOM   2177  CG  HIS A 280      15.642  34.367  26.626  1.00 21.64           C
ATOM   2178  ND1 HIS A 280      15.100  35.028  27.705  1.00 22.67           N
ATOM   2179  CD2 HIS A 280      14.600  33.826  25.951  1.00 23.33           C
ATOM   2180  CE1 HIS A 280      13.786  34.891  27.684  1.00 23.20           C
ATOM   2181  NE2 HIS A 280      13.457  34.158  26.635  1.00 23.30           N
ATOM   2182  N   ILE A 281      16.368  30.934  26.733  1.00 22.98           N
ATOM   2183  CA  ILE A 281      15.658  29.779  26.158  1.00 23.36           C
ATOM   2184  C   ILE A 281      14.313  29.606  26.800  1.00 23.58           C
ATOM   2185  O   ILE A 281      14.209  29.592  28.014  1.00 23.63           O
ATOM   2186  CB  ILE A 281      16.512  28.525  26.301  1.00 23.87           C
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ATOM   2187  CG1 ILE A 281      17.771  28.675  25.435  1.00 25.77           C
ATOM   2188  CG2 ILE A 281      15.748  27.261  25.863  1.00 23.54           C
ATOM   2189  CD1 ILE A 281      18.752  27.659  25.690  1.00 29.36           C
ATOM   2190  N   GLU A 282      13.268  29.510  25.982  1.00 23.92           N
ATOM   2191  CA  GLU A 282      11.923  29.337  26.525  1.00 24.26           C
ATOM   2192  C   GLU A 282      11.113  28.234  25.834  1.00 23.82           C
ATOM   2193  O   GLU A 282      11.115  28.107  24.606  1.00 24.00           O
ATOM   2194  CB  GLU A 282      11.166  30.681  26.490  1.00 24.35           C
ATOM   2195  CG  GLU A 282      10.887  31.249  25.112  1.00 25.59           C
ATOM   2196  CD  GLU A 282      10.320  32.668  25.168  1.00 25.45           C
ATOM   2197  OE1 GLU A 282      10.861  33.494  25.929  1.00 26.04           O
ATOM   2198  OE2 GLU A 282       9.332  32.954  24.451  1.00 25.08           O
ATOM   2199  N   SER A 283      10.460  27.419  26.648  1.00 23.28           N
ATOM   2200  CA  SER A 283       9.573  26.373  26.166  1.00 23.66           C
ATOM   2201  C   SER A 283       8.257  27.054  25.787  1.00 23.86           C
ATOM   2202  O   SER A 283       7.678  27.780  26.593  1.00 23.20           O
ATOM   2203  CB  SER A 283       9.341  25.321  27.247  1.00 23.36           C
ATOM   2204  OG  SER A 283      10.473  24.497  27.401  1.00 23.30           O
ATOM   2205  N   LEU A 284       7.792  26.837  24.564  1.00 24.56           N
ATOM   2206  CA  LEU A 284       6.626  27.583  24.084  1.00 25.62           C
ATOM   2207  C   LEU A 284       5.401  27.487  25.004  1.00 25.52           C
ATOM   2208  O   LEU A 284       5.114  26.431  25.589  1.00 24.71           O
ATOM   2209  CB  LEU A 284       6.237  27.157  22.680  1.00 25.64           C
ATOM   2210  CG  LEU A 284       7.274  27.308  21.576  1.00 27.12           C
ATOM   2211  CD1 LEU A 284       6.591  27.546  20.242  1.00 28.93           C
ATOM   2212  CD2 LEU A 284       8.248  28.364  21.851  1.00 27.08           C
ATOM   2213  N   LEU A 285       4.713  28.615  25.144  1.00 25.85           N
ATOM   2214  CA  LEU A 285       3.490  28.676  25.942  1.00 26.84           C
ATOM   2215  C   LEU A 285       2.507  27.691  25.345  1.00 27.10           C
ATOM   2216  O   LEU A 285       2.424  27.565  24.139  1.00 27.10           O
ATOM   2217  CB  LEU A 285       2.875  30.071  25.906  1.00 26.48           C
ATOM   2218  CG  LEU A 285       3.709  31.225  26.438  1.00 27.70           C
ATOM   2219  CD1 LEU A 285       3.075  32.554  26.026  1.00 28.22           C
ATOM   2220  CD2 LEU A 285       3.845  31.125  27.928  1.00 28.39           C
ATOM   2221  N   ASN A 286       1.779  26.987  26.196  1.00 27.81           N
ATOM   2222  CA  ASN A 286       0.790  26.007  25.753  1.00 28.27           C
ATOM   2223  C   ASN A 286       1.313  24.977  24.744  1.00 27.42           C
ATOM   2224  O   ASN A 286       0.555  24.481  23.922  1.00 26.50           O
ATOM   2225  CB  ASN A 286      -0.417  26.741  25.160  1.00 29.08           C
ATOM   2226  CG  ASN A 286      -0.931  27.846  26.078  1.00 32.15           C
ATOM   2227  OD1 ASN A 286      -1.484  27.577  27.154  1.00 34.93           O
ATOM   2228  ND2 ASN A 286      -0.725  29.099  25.670  1.00 35.91           N
ATOM   2229  N   GLY A 287       2.608  24.672  24.799  1.00 26.54           N
ATOM   2230  CA  GLY A 287       3.201  23.727  23.879  1.00 25.64           C
ATOM   2231  C   GLY A 287       3.474  22.371  24.497  1.00 25.01           C
ATOM   2232  O   GLY A 287       4.031  21.502  23.829  1.00 24.77           O
ATOM   2233  N   GLY A 288       3.110  22.187  25.766  1.00 24.43           N
ATOM   2234  CA  GLY A 288       3.357  20.922  26.455  1.00 23.99           C
ATOM   2235  C   GLY A 288       4.804  20.844  26.935  1.00 24.11           C
ATOM   2236  O   GLY A 288       5.546  21.810  26.786  1.00 22.82           O
ATOM   2237  N   ILE A 289       5.211  19.695  27.472  1.00 23.99           N
ATOM   2238  CA  ILE A 289       6.550  19.522  28.000  1.00 24.69           C
ATOM   2239  C   ILE A 289       7.605  19.496  26.908  1.00 24.25           C
ATOM   2240  O   ILE A 289       7.350  19.092  25.774  1.00 25.20           O
ATOM   2241  CB  ILE A 289       6.691  18.234  28.836  1.00 25.39           C
ATOM   2242  CG1 ILE A 289       6.702  17.006  27.941  1.00 27.43           C
ATOM   2243  CG2 ILE A 289       5.613  18.151  29.921  1.00 26.30           C
ATOM   2244  CD1 ILE A 289       7.255  15.752  28.650  1.00 30.57           C
ATOM   2245  N   THR A 290       8.808  19.912  27.267  1.00 23.28           N
ATOM   2246  CA  THR A 290       9.908  19.908  26.334  1.00 22.12           C
ATOM   2247  C   THR A 290      11.008  18.984  26.824  1.00 21.52           C
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ATOM   2248  O   THR A 290      11.193  18.789  28.029  1.00 20.85           O
ATOM   2249  CB  THR A 290      10.473  21.318  26.168  1.00 22.19           C
ATOM   2250  OG1 THR A 290      10.758  21.885  27.444  1.00 21.69           O
ATOM   2251  CG2 THR A 290       9.436  22.268  25.557  1.00 23.05           C
ATOM   2252  N   ILE A 291      11.746  18.421  25.880  1.00 20.44           N
ATOM   2253  CA  ILE A 291      12.880  17.616  26.234  1.00 21.24           C
ATOM   2254  C   ILE A 291      14.033  17.981  25.347  1.00 20.47           C
ATOM   2255  O   ILE A 291      13.869  18.064  24.137  1.00 21.04           O
ATOM   2256  CB  ILE A 291      12.559  16.118  26.078  1.00 21.40           C
ATOM   2257  CG1 ILE A 291      11.405  15.724  27.004  1.00 22.31           C
ATOM   2258  CG2 ILE A 291      13.798  15.310  26.383  1.00 22.63           C
ATOM   2259  CD1 ILE A 291      10.969  14.262  26.867  1.00 23.92           C
ATOM   2260  N   THR A 292      15.194  18.188  25.953  1.00 20.24           N
ATOM   2261  CA  THR A 292      16.395  18.517  25.236  1.00 20.13           C
ATOM   2262  C   THR A 292      17.560  17.794  25.831  1.00 20.29           C
ATOM   2263  O   THR A 292      17.605  17.557  27.021  1.00 20.94           O
ATOM   2264  CB  THR A 292      16.688  20.044  25.365  1.00 20.34           C
ATOM   2265  OG1 THR A 292      15.524  20.799  25.022  1.00 19.08           O
ATOM   2266  CG2 THR A 292      17.730  20.487  24.355  1.00 20.32           C
ATOM   2267  N   VAL A 293      18.530  17.454  25.003  1.00 20.52           N
ATOM   2268  CA  VAL A 293      19.784  16.939  25.516  1.00 20.48           C
ATOM   2269  C   VAL A 293      20.892  17.803  24.918  1.00 20.80           C
ATOM   2270  O   VAL A 293      20.936  17.954  23.709  1.00 19.58           O
ATOM   2271  CB  VAL A 293      19.995  15.483  25.129  1.00 20.78           C
ATOM   2272  CG1 VAL A 293      21.436  15.068  25.385  1.00 20.33           C
ATOM   2273  CG2 VAL A 293      19.047  14.597  25.919  1.00 20.95           C
ATOM   2274  N   ASN A 294      21.749  18.412  25.752  1.00 21.34           N
ATOM   2275  CA  ASN A 294      22.855  19.192  25.205  1.00 22.04           C
ATOM   2276  C   ASN A 294      24.144  18.362  25.204  1.00 22.29           C
ATOM   2277  O   ASN A 294      24.182  17.241  25.720  1.00 23.22           O
ATOM   2278  CB  ASN A 294      23.012  20.581  25.883  1.00 22.35           C
ATOM   2279  CG  ASN A 294      23.703  20.520  27.259  1.00 23.08           C
ATOM   2280  OD1 ASN A 294      24.240  19.493  27.628  1.00 22.91           O
ATOM   2281  ND2 ASN A 294      23.657  21.640  28.027  1.00 21.75           N
ATOM   2282  N   PHE A 295      25.168  18.903  24.565  1.00 22.27           N
ATOM   2283  CA  PHE A 295      26.467  18.269  24.452  1.00 22.31           C
ATOM   2284  C   PHE A 295      27.444  19.408  24.704  1.00 22.66           C
ATOM   2285  O   PHE A 295      27.602  20.299  23.865  1.00 23.12           O
ATOM   2286  CB  PHE A 295      26.709  17.748  23.040  1.00 22.32           C
ATOM   2287  CG  PHE A 295      25.871  16.568  22.653  1.00 22.18           C
ATOM   2288  CD1 PHE A 295      24.494  16.689  22.477  1.00 22.38           C
ATOM   2289  CD2 PHE A 295      26.465  15.336  22.441  1.00 21.44           C
ATOM   2290  CE1 PHE A 295      23.757  15.604  22.111  1.00 24.06           C
ATOM   2291  CE2 PHE A 295      25.718  14.248  22.064  1.00 19.77           C
ATOM   2292  CZ  PHE A 295      24.380  14.366  21.911  1.00 21.39           C
ATOM   2293  N   TRP A 296      28.062  19.403  25.869  1.00 22.66           N
ATOM   2294  CA  TRP A 296      28.998  20.450  26.256  1.00 23.09           C
ATOM   2295  C   TRP A 296      30.454  19.991  26.081  1.00 23.22           C
ATOM   2296  O   TRP A 296      30.865  18.932  26.595  1.00 22.78           O
ATOM   2297  CB  TRP A 296      28.734  20.834  27.707  1.00 22.89           C
ATOM   2298  CG  TRP A 296      27.830  22.013  27.906  1.00 23.61           C
ATOM   2299  CD1 TRP A 296      27.783  23.129  27.149  1.00 25.47           C
ATOM   2300  CD2 TRP A 296      26.894  22.219  28.975  1.00 24.55           C
ATOM   2301  NE1 TRP A 296      26.874  24.018  27.667  1.00 25.25           N
ATOM   2302  CE2 TRP A 296      26.308  23.478  28.783  1.00 24.33           C
ATOM   2303  CE3 TRP A 296      26.464  21.444  30.061  1.00 27.49           C
ATOM   2304  CZ2 TRP A 296      25.335  23.994  29.631  1.00 25.91           C
ATOM   2305  CZ3 TRP A 296      25.474  21.952  30.899  1.00 27.19           C
ATOM   2306  CH2 TRP A 296      24.935  23.224  30.682  1.00 26.96           C
ATOM   2307  N   TYR A 297      31.216  20.783  25.337  1.00 23.29           N
ATOM   2308  CA  TYR A 297      32.627  20.510  25.100  1.00 23.80           C
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ATOM   2309  C   TYR A 297      33.506  21.660  25.554  1.00 24.51           C
ATOM   2310  O   TYR A 297      33.188  22.825  25.323  1.00 23.73           O
ATOM   2311  CB  TYR A 297      32.882  20.332  23.610  1.00 23.38           C
ATOM   2312  CG  TYR A 297      32.284  19.092  23.021  1.00 23.42           C
ATOM   2313  CD1 TYR A 297      30.940  19.053  22.641  1.00 23.90           C
ATOM   2314  CD2 TYR A 297      33.056  17.971  22.808  1.00 21.43           C
ATOM   2315  CE1 TYR A 297      30.394  17.920  22.089  1.00 23.32           C
ATOM   2316  CE2 TYR A 297      32.515  16.826  22.250  1.00 22.05           C
ATOM   2317  CZ  TYR A 297      31.186  16.806  21.905  1.00 21.88           C
ATOM   2318  OH  TYR A 297      30.644  15.669  21.365  1.00 21.30           O
ATOM   2319  N   LYS A 298      34.637  21.334  26.160  1.00 25.35           N
ATOM   2320  CA  LYS A 298      35.589  22.362  26.536  1.00 26.48           C
ATOM   2321  C   LYS A 298      36.070  23.017  25.268  1.00 26.23           C
ATOM   2322  O   LYS A 298      36.224  22.364  24.249  1.00 24.85           O
ATOM   2323  CB  LYS A 298      36.783  21.771  27.308  1.00 27.15           C
ATOM   2324  CG  LYS A 298      36.474  21.471  28.777  1.00 30.00           C
ATOM   2325  CD  LYS A 298      37.666  20.901  29.550  1.00 33.20           C
ATOM   2326  CE  LYS A 298      37.232  20.493  30.969  1.00 36.09           C
ATOM   2327  NZ  LYS A 298      38.299  19.766  31.764  1.00 39.03           N
ATOM   2328  N   GLY A 299      36.321  24.313  25.329  1.00 27.13           N
ATOM   2329  CA  GLY A 299      36.798  25.014  24.159  1.00 28.27           C
ATOM   2330  C   GLY A 299      38.229  24.649  23.837  1.00 29.23           C
ATOM   2331  O   GLY A 299      38.892  24.005  24.613  1.00 28.19           O
ATOM   2332  N   ALA A 300      38.674  25.046  22.660  1.00 31.78           N
ATOM   2333  CA  ALA A 300      40.046  24.852  22.233  1.00 34.32           C
ATOM   2334  C   ALA A 300      40.992  25.610  23.155  1.00 36.37           C
ATOM   2335  O   ALA A 300      40.573  26.430  23.956  1.00 35.96           O
ATOM   2336  CB  ALA A 300      40.210  25.355  20.806  1.00 34.38           C
ATOM   2337  N   PRO A 301      42.280  25.349  23.025  1.00 39.70           N
ATOM   2338  CA  PRO A 301      43.278  26.051  23.845  1.00 41.64           C
ATOM   2339  C   PRO A 301      43.465  27.482  23.386  1.00 43.35           C
ATOM   2340  O   PRO A 301      43.220  27.803  22.228  1.00 43.86           O
ATOM   2341  CB  PRO A 301      44.566  25.275  23.572  1.00 41.46           C
ATOM   2342  CG  PRO A 301      44.382  24.736  22.199  1.00 41.25           C
ATOM   2343  CD  PRO A 301      42.906  24.416  22.068  1.00 40.04           C
ATOM   2344  N   THR A 302      43.900  28.328  24.300  1.00 45.97           N
ATOM   2345  CA  THR A 302      44.214  29.715  24.001  1.00 47.77           C
ATOM   2346  C   THR A 302      45.593  29.713  23.362  1.00 48.92           C
ATOM   2347  O   THR A 302      46.532  29.251  24.006  1.00 49.23           O
ATOM   2348  CB  THR A 302      44.282  30.469  25.322  1.00 48.10           C
ATOM   2349  OG1 THR A 302      43.006  30.416  25.976  1.00 49.37           O
ATOM   2350  CG2 THR A 302      44.520  31.924  25.100  1.00 48.91           C
ATOM   2351  N   PRO A 303      45.761  30.248  22.148  1.00 50.22           N
ATOM   2352  CA  PRO A 303      47.064  30.150  21.474  1.00 50.62           C
ATOM   2353  C   PRO A 303      48.191  30.728  22.316  1.00 50.64           C
ATOM   2354  O   PRO A 303      47.883  31.390  23.307  1.00 50.98           O
ATOM   2355  CB  PRO A 303      46.877  30.986  20.202  1.00 50.93           C
ATOM   2356  CG  PRO A 303      45.407  30.999  19.968  1.00 50.70           C
ATOM   2357  CD  PRO A 303      44.814  31.064  21.360  1.00 50.45           C
ATOM   2358  N   GLU A 307      46.978  37.074  18.830  1.00 53.59           N
ATOM   2359  CA  GLU A 307      46.946  38.016  17.714  1.00 53.82           C
ATOM   2360  C   GLU A 307      45.902  39.090  17.922  1.00 52.97           C
ATOM   2361  O   GLU A 307      44.792  38.810  18.358  1.00 53.64           O
ATOM   2362  CB  GLU A 307      46.672  37.308  16.371  1.00 54.37           C
ATOM   2363  CG  GLU A 307      46.875  38.231  15.159  1.00 56.16           C
ATOM   2364  CD  GLU A 307      46.966  37.504  13.822  1.00 57.96           C
ATOM   2365  OE1 GLU A 307      46.621  36.303  13.738  1.00 59.31           O
ATOM   2366  OE2 GLU A 307      47.388  38.150  12.839  1.00 59.69           O
ATOM   2367  N   TYR A 308      46.267  40.324  17.610  1.00 51.95           N
ATOM   2368  CA  TYR A 308      45.343  41.436  17.702  1.00 51.19           C
ATOM   2369  C   TYR A 308      44.693  41.603  16.337  1.00 50.27           C
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ATOM   2370  O   TYR A 308      45.246  41.146  15.331  1.00 50.45           O
ATOM   2371  CB  TYR A 308      46.083  42.684  18.162  1.00 51.43           C
ATOM   2372  CG  TYR A 308      46.675  42.460  19.532  1.00 52.65           C
ATOM   2373  CD1 TYR A 308      45.925  42.712  20.674  1.00 52.95           C
ATOM   2374  CD2 TYR A 308      47.948  41.912  19.685  1.00 53.42           C
ATOM   2375  CE1 TYR A 308      46.435  42.472  21.925  1.00 54.01           C
ATOM   2376  CE2 TYR A 308      48.467  41.662  20.937  1.00 54.33           C
ATOM   2377  CZ  TYR A 308      47.703  41.949  22.058  1.00 54.84           C
ATOM   2378  OH  TYR A 308      48.189  41.714  23.323  1.00 56.45           O
ATOM   2379  N   PRO A 309      43.496  42.186  16.290  1.00 48.69           N
ATOM   2380  CA  PRO A 309      42.789  42.696  17.474  1.00 47.07           C
ATOM   2381  C   PRO A 309      42.127  41.586  18.280  1.00 44.55           C
ATOM   2382  O   PRO A 309      41.782  40.555  17.728  1.00 45.01           O
ATOM   2383  CB  PRO A 309      41.720  43.606  16.869  1.00 47.45           C
ATOM   2384  CG  PRO A 309      41.420  42.978  15.508  1.00 48.43           C
ATOM   2385  CD  PRO A 309      42.701  42.336  15.056  1.00 48.78           C
ATOM   2386  N   LEU A 310      41.967  41.790  19.577  1.00 41.78           N
ATOM   2387  CA  LEU A 310      41.344  40.781  20.427  1.00 39.59           C
ATOM   2388  C   LEU A 310      39.858  40.652  20.133  1.00 37.52           C
ATOM   2389  O   LEU A 310      39.171  41.655  19.923  1.00 38.11           O
ATOM   2390  CB  LEU A 310      41.499  41.174  21.893  1.00 39.43           C
ATOM   2391  CG  LEU A 310      42.527  40.468  22.784  1.00 38.86           C
ATOM   2392  CD1 LEU A 310      43.799  40.123  22.092  1.00 37.07           C
ATOM   2393  CD2 LEU A 310      42.799  41.326  24.000  1.00 38.37           C
ATOM   2394  N   LYS A 311      39.361  39.425  20.141  1.00 34.45           N
ATOM   2395  CA  LYS A 311      37.932  39.180  20.001  1.00 32.51           C
ATOM   2396  C   LYS A 311      37.144  39.537  21.257  1.00 30.59           C
ATOM   2397  O   LYS A 311      37.675  39.546  22.375  1.00 28.88           O
ATOM   2398  CB  LYS A 311      37.674  37.736  19.652  1.00 32.87           C
ATOM   2399  N   ALA A 312      35.853  39.786  21.057  1.00 28.39           N
ATOM   2400  CA  ALA A 312      34.991  40.141  22.155  1.00 27.14           C
ATOM   2401  C   ALA A 312      35.110  39.121  23.260  1.00 26.12           C
ATOM   2402  O   ALA A 312      35.274  39.509  24.411  1.00 24.47           O
ATOM   2403  CB  ALA A 312      33.552  40.323  21.710  1.00 26.63           C
ATOM   2404  N   HIS A 313      35.126  37.830  22.910  1.00 25.90           N
ATOM   2405  CA  HIS A 313      35.106  36.796  23.932  1.00 25.82           C
ATOM   2406  C   HIS A 313      36.411  36.749  24.690  1.00 25.03           C
ATOM   2407  O   HIS A 313      36.447  36.323  25.825  1.00 24.89           O
ATOM   2408  CB  HIS A 313      34.724  35.406  23.368  1.00 27.19           C
ATOM   2409  CG  HIS A 313      35.788  34.773  22.535  1.00 29.47           C
ATOM   2410  ND1 HIS A 313      35.963  35.078  21.198  1.00 34.94           N
ATOM   2411  CD2 HIS A 313      36.753  33.880  22.847  1.00 33.69           C
ATOM   2412  CE1 HIS A 313      37.006  34.411  20.730  1.00 35.11           C
ATOM   2413  NE2 HIS A 313      37.495  33.665  21.705  1.00 35.57           N
ATOM   2414  N   GLN A 314      37.491  37.185  24.072  1.00 24.60           N
ATOM   2415  CA  GLN A 314      38.764  37.226  24.753  1.00 24.57           C
ATOM   2416  C   GLN A 314      38.776  38.352  25.813  1.00 24.74           C
ATOM   2417  O   GLN A 314      39.371  38.201  26.881  1.00 24.48           O
ATOM   2418  CB  GLN A 314      39.898  37.420  23.745  1.00 24.79           C
ATOM   2419  CG  GLN A 314      40.067  36.241  22.794  1.00 26.08           C
ATOM   2420  CD  GLN A 314      41.109  36.488  21.730  1.00 27.10           C
ATOM   2421  OE1 GLN A 314      41.013  37.450  20.949  1.00 27.68           O
ATOM   2422  NE2 GLN A 314      42.123  35.629  21.699  1.00 29.52           N
ATOM   2423  N   LYS A 315      38.115  39.462  25.506  1.00 23.99           N
ATOM   2424  CA  LYS A 315      37.983  40.545  26.454  1.00 24.95           C
ATOM   2425  C   LYS A 315      37.099  40.114  27.622  1.00 24.32           C
ATOM   2426  O   LYS A 315      37.345  40.491  28.765  1.00 22.87           O
ATOM   2427  CB  LYS A 315      37.408  41.783  25.785  1.00 25.11           C
ATOM   2428  CG  LYS A 315      38.403  42.449  24.874  1.00 29.28           C
ATOM   2429  CD  LYS A 315      37.821  43.693  24.226  1.00 34.17           C
ATOM   2430  CE  LYS A 315      38.844  44.360  23.332  1.00 37.47           C
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ATOM   2431  NZ  LYS A 315      38.206  45.270  22.318  1.00 41.38           N
ATOM   2432  N   VAL A 316      36.079  39.314  27.330  1.00 23.78           N
ATOM   2433  CA  VAL A 316      35.258  38.796  28.396  1.00 23.67           C
ATOM   2434  C   VAL A 316      36.138  37.937  29.329  1.00 23.61           C
ATOM   2435  O   VAL A 316      36.094  38.075  30.558  1.00 22.63           O
ATOM   2436  CB  VAL A 316      34.092  37.961  27.873  1.00 23.67           C
ATOM   2437  CG1 VAL A 316      33.315  37.370  29.037  1.00 23.53           C
ATOM   2438  CG2 VAL A 316      33.159  38.816  27.005  1.00 23.69           C
ATOM   2439  N   ALA A 317      36.940  37.065  28.732  1.00 22.51           N
ATOM   2440  CA  ALA A 317      37.834  36.207  29.507  1.00 22.28           C
ATOM   2441  C   ALA A 317      38.730  37.067  30.391  1.00 21.32           C
ATOM   2442  O   ALA A 317      38.926  36.783  31.556  1.00 21.45           O
ATOM   2443  CB  ALA A 317      38.680  35.325  28.574  1.00 21.87           C
ATOM   2444  N   ILE A 318      39.220  38.153  29.834  1.00 20.92           N
ATOM   2445  CA  ILE A 318      40.091  39.053  30.574  1.00 21.36           C
ATOM   2446  C   ILE A 318      39.375  39.662  31.784  1.00 21.54           C
ATOM   2447  O   ILE A 318      39.930  39.697  32.895  1.00 20.69           O
ATOM   2448  CB  ILE A 318      40.650  40.153  29.646  1.00 21.19           C
ATOM   2449  CG1 ILE A 318      41.664  39.560  28.670  1.00 21.41           C
ATOM   2450  CG2 ILE A 318      41.315  41.267  30.461  1.00 21.05           C
ATOM   2451  CD1 ILE A 318      42.217  40.569  27.663  1.00 21.73           C
ATOM   2452  N   MET A 319      38.146  40.122  31.569  1.00 21.31           N
ATOM   2453  CA  MET A 319      37.400  40.774  32.632  1.00 21.99           C
ATOM   2454  C   MET A 319      37.094  39.787  33.748  1.00 22.21           C
ATOM   2455  O   MET A 319      37.219  40.114  34.937  1.00 23.25           O
ATOM   2456  CB  MET A 319      36.133  41.446  32.108  1.00 21.66           C
ATOM   2457  CG  MET A 319      36.369  42.703  31.233  1.00 21.49           C
ATOM   2458  SD  MET A 319      34.787  43.525  30.787  1.00 23.05           S
ATOM   2459  CE  MET A 319      34.192  42.395  29.453  1.00 22.63           C
ATOM   2460  N   ARG A 320      36.736  38.568  33.379  1.00 21.99           N
ATOM   2461  CA  ARG A 320      36.492  37.544  34.383  1.00 21.57           C
ATOM   2462  C   ARG A 320      37.750  37.319  35.223  1.00 21.22           C
ATOM   2463  O   ARG A 320      37.669  37.210  36.439  1.00 21.65           O
ATOM   2464  CB  ARG A 320      36.083  36.237  33.726  1.00 20.79           C
ATOM   2465  CG  ARG A 320      34.702  36.243  33.014  1.00 22.36           C
ATOM   2466  CD  ARG A 320      34.300  34.857  32.452  1.00 21.24           C
ATOM   2467  NE  ARG A 320      34.147  33.910  33.558  1.00 21.37           N
ATOM   2468  CZ  ARG A 320      33.148  33.957  34.423  1.00 21.73           C
ATOM   2469  NH1 ARG A 320      32.196  34.869  34.308  1.00 22.69           N
ATOM   2470  NH2 ARG A 320      33.100  33.109  35.425  1.00 23.33           N
ATOM   2471  N   ASN A 321      38.908  37.216  34.571  1.00 21.35           N
ATOM   2472  CA  ASN A 321      40.159  36.947  35.282  1.00 21.20           C
ATOM   2473  C   ASN A 321      40.510  38.078  36.239  1.00 21.02           C
ATOM   2474  O   ASN A 321      40.958  37.828  37.364  1.00 21.80           O
ATOM   2475  CB  ASN A 321      41.314  36.648  34.311  1.00 21.07           C
ATOM   2476  CG  ASN A 321      41.263  35.209  33.752  1.00 22.81           C
ATOM   2477  OD1 ASN A 321      40.821  34.306  34.431  1.00 23.88           O
ATOM   2478  ND2 ASN A 321      41.713  35.018  32.521  1.00 20.59           N
ATOM   2479  N   ILE A 322      40.336  39.320  35.802  1.00 20.31           N
ATOM   2480  CA  ILE A 322      40.611  40.447  36.683  1.00 19.83           C
ATOM   2481  C   ILE A 322      39.721  40.344  37.918  1.00 19.45           C
ATOM   2482  O   ILE A 322      40.178  40.531  39.037  1.00 18.04           O
ATOM   2483  CB  ILE A 322      40.327  41.775  35.980  1.00 20.01           C
ATOM   2484  CG1 ILE A 322      41.320  42.009  34.849  1.00 21.62           C
ATOM   2485  CG2 ILE A 322      40.351  42.930  36.989  1.00 20.64           C
ATOM   2486  CD1 ILE A 322      42.782  41.987  35.278  1.00 23.99           C
ATOM   2487  N   GLU A 323      38.444  40.035  37.716  1.00 18.87           N
ATOM   2488  CA  GLU A 323      37.533  39.940  38.841  1.00 19.15           C
ATOM   2489  C   GLU A 323      37.964  38.845  39.781  1.00 19.09           C
ATOM   2490  O   GLU A 323      37.997  39.044  40.980  1.00 19.36           O
ATOM   2491  CB  GLU A 323      36.095  39.721  38.366  1.00 19.19           C
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ATOM   2492  CG  GLU A 323      35.478  40.987  37.787  1.00 19.24           C
ATOM   2493  CD  GLU A 323      34.096  40.764  37.189  1.00 17.51           C
ATOM   2494  OE1 GLU A 323      33.140  40.470  37.922  1.00 17.44           O
ATOM   2495  OE2 GLU A 323      33.982  40.901  35.974  1.00 16.60           O
ATOM   2496  N   LYS A 324      38.357  37.711  39.227  1.00 19.47           N
ATOM   2497  CA  LYS A 324      38.781  36.570  40.037  1.00 20.33           C
ATOM   2498  C   LYS A 324      40.040  36.869  40.839  1.00 20.67           C
ATOM   2499  O   LYS A 324      40.090  36.562  42.023  1.00 20.56           O
ATOM   2500  CB  LYS A 324      39.040  35.334  39.172  1.00 20.11           C
ATOM   2501  CG  LYS A 324      37.803  34.678  38.572  1.00 20.73           C
ATOM   2502  CD  LYS A 324      38.238  33.413  37.761  1.00 21.68           C
ATOM   2503  CE  LYS A 324      37.117  32.866  36.857  1.00 22.30           C
ATOM   2504  NZ  LYS A 324      37.534  31.609  36.153  1.00 19.72           N
ATOM   2505  N   MET A 325      41.045  37.456  40.194  1.00 21.37           N
ATOM   2506  CA  MET A 325      42.305  37.782  40.860  1.00 22.78           C
ATOM   2507  C   MET A 325      42.106  38.789  41.990  1.00 22.78           C
ATOM   2508  O   MET A 325      42.734  38.694  43.047  1.00 22.48           O
ATOM   2509  CB  MET A 325      43.308  38.369  39.865  1.00 23.14           C
ATOM   2510  CG  MET A 325      43.964  37.359  38.978  1.00 27.30           C
ATOM   2511  SD  MET A 325      44.699  38.147  37.511  1.00 35.72           S
ATOM   2512  CE  MET A 325      45.804  39.221  38.338  1.00 36.16           C
ATOM   2513  N   LEU A 326      41.248  39.765  41.752  1.00 23.21           N
ATOM   2514  CA  LEU A 326      40.977  40.795  42.751  1.00 24.47           C
ATOM   2515  C   LEU A 326      40.307  40.195  43.969  1.00 24.48           C
ATOM   2516  O   LEU A 326      40.659  40.500  45.083  1.00 24.21           O
ATOM   2517  CB  LEU A 326      40.087  41.863  42.159  1.00 24.63           C
ATOM   2518  CG  LEU A 326      40.618  43.282  41.988  1.00 27.80           C
ATOM   2519  CD1 LEU A 326      42.135  43.441  42.036  1.00 28.29           C
ATOM   2520  CD2 LEU A 326      40.038  43.820  40.682  1.00 28.01           C
ATOM   2521  N   GLY A 327      39.350  39.314  43.726  1.00 25.29           N
ATOM   2522  CA  GLY A 327      38.663  38.608  44.782  1.00 25.73           C
ATOM   2523  C   GLY A 327      39.644  37.854  45.638  1.00 25.86           C
ATOM   2524  O   GLY A 327      39.597  37.931  46.863  1.00 25.83           O
ATOM   2525  N   GLU A 328      40.556  37.137  45.002  1.00 26.02           N
ATOM   2526  CA  GLU A 328      41.558  36.397  45.762  1.00 26.93           C
ATOM   2527  C   GLU A 328      42.557  37.306  46.480  1.00 25.70           C
ATOM   2528  O   GLU A 328      42.883  37.070  47.635  1.00 24.67           O
ATOM   2529  CB  GLU A 328      42.293  35.423  44.853  1.00 27.76           C
ATOM   2530  CG  GLU A 328      41.403  34.282  44.375  1.00 31.57           C
ATOM   2531  CD  GLU A 328      41.635  32.992  45.146  1.00 37.39           C
ATOM   2532  OE1 GLU A 328      42.048  33.058  46.335  1.00 41.34           O
ATOM   2533  OE2 GLU A 328      41.430  31.902  44.552  1.00 42.69           O
ATOM   2534  N   ALA A 329      43.024  38.356  45.816  1.00 25.20           N
ATOM   2535  CA  ALA A 329      44.031  39.219  46.433  1.00 25.42           C
ATOM   2536  C   ALA A 329      43.475  40.039  47.582  1.00 25.67           C
ATOM   2537  O   ALA A 329      44.141  40.247  48.570  1.00 25.92           O
ATOM   2538  CB  ALA A 329      44.670  40.109  45.409  1.00 25.31           C
ATOM   2539  N   LEU A 330      42.241  40.496  47.467  1.00 26.51           N
ATOM   2540  CA  LEU A 330      41.656  41.306  48.529  1.00 27.12           C
ATOM   2541  C   LEU A 330      41.156  40.453  49.677  1.00 27.74           C
ATOM   2542  O   LEU A 330      40.845  40.959  50.748  1.00 27.62           O
ATOM   2543  CB  LEU A 330      40.517  42.138  47.984  1.00 27.19           C
ATOM   2544  CG  LEU A 330      40.966  43.131  46.915  1.00 27.69           C
ATOM   2545  CD1 LEU A 330      39.747  43.661  46.211  1.00 28.15           C
ATOM   2546  CD2 LEU A 330      41.774  44.271  47.525  1.00 27.60           C
ATOM   2547  N   GLY A 331      41.054  39.154  49.434  1.00 28.45           N
ATOM   2548  CA  GLY A 331      40.637  38.222  50.457  1.00 29.04           C
ATOM   2549  C   GLY A 331      39.154  38.239  50.748  1.00 29.16           C
ATOM   2550  O   GLY A 331      38.698  37.505  51.615  1.00 29.67           O
ATOM   2551  N   ASN A 332      38.409  39.088  50.052  1.00 29.16           N
ATOM   2552  CA  ASN A 332      36.973  39.190  50.243  1.00 29.38           C
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ATOM   2553  C   ASN A 332      36.342  39.718  48.958  1.00 28.80           C
ATOM   2554  O   ASN A 332      36.579  40.847  48.570  1.00 28.58           O
ATOM   2555  CB  ASN A 332      36.662  40.123  51.413  1.00 29.68           C
ATOM   2556  CG  ASN A 332      35.181  40.214  51.702  1.00 31.38           C
ATOM   2557  OD1 ASN A 332      34.368  39.630  50.991  1.00 35.54           O
ATOM   2558  ND2 ASN A 332      34.820  40.944  52.751  1.00 33.23           N
ATOM   2559  N   PRO A 333      35.504  38.922  48.325  1.00 28.45           N
ATOM   2560  CA  PRO A 333      34.944  39.288  47.025  1.00 28.38           C
ATOM   2561  C   PRO A 333      34.094  40.534  47.093  1.00 28.04           C
ATOM   2562  O   PRO A 333      33.913  41.187  46.073  1.00 28.11           O
ATOM   2563  CB  PRO A 333      34.071  38.093  46.640  1.00 28.23           C
ATOM   2564  CG  PRO A 333      34.203  37.097  47.701  1.00 29.36           C
ATOM   2565  CD  PRO A 333      34.999  37.641  48.822  1.00 28.91           C
ATOM   2566  N   GLN A 334      33.556  40.844  48.262  1.00 27.75           N
ATOM   2567  CA  GLN A 334      32.727  42.033  48.400  1.00 28.08           C
ATOM   2568  C   GLN A 334      33.582  43.282  48.300  1.00 26.62           C
ATOM   2569  O   GLN A 334      33.064  44.365  48.086  1.00 26.31           O
ATOM   2570  CB  GLN A 334      31.857  41.989  49.686  1.00 28.89           C
ATOM   2571  CG  GLN A 334      30.594  41.090  49.459  1.00 32.52           C
ATOM   2572  CD  GLN A 334      29.523  41.114  50.556  1.00 36.22           C
ATOM   2573  OE1 GLN A 334      29.500  42.004  51.421  1.00 39.82           O
ATOM   2574  NE2 GLN A 334      28.612  40.127  50.503  1.00 38.24           N
ATOM   2575  N   GLU A 335      34.894  43.138  48.414  1.00 25.23           N
ATOM   2576  CA  GLU A 335      35.763  44.290  48.269  1.00 24.55           C
ATOM   2577  C   GLU A 335      36.090  44.584  46.790  1.00 22.95           C
ATOM   2578  O   GLU A 335      36.691  45.597  46.475  1.00 21.47           O
ATOM   2579  CB  GLU A 335      37.038  44.091  49.088  1.00 25.61           C
ATOM   2580  CG  GLU A 335      36.820  44.189  50.599  1.00 29.47           C
ATOM   2581  CD  GLU A 335      38.115  44.280  51.369  1.00 34.49           C
ATOM   2582  OE1 GLU A 335      38.964  45.124  51.004  1.00 39.50           O
ATOM   2583  OE2 GLU A 335      38.288  43.521  52.350  1.00 40.05           O
ATOM   2584  N   VAL A 336      35.654  43.722  45.877  1.00 21.52           N
ATOM   2585  CA  VAL A 336      35.993  43.898  44.458  1.00 20.69           C
ATOM   2586  C   VAL A 336      35.422  45.176  43.855  1.00 19.97           C
ATOM   2587  O   VAL A 336      36.134  45.949  43.239  1.00 19.57           O
ATOM   2588  CB  VAL A 336      35.594  42.683  43.653  1.00 20.59           C
ATOM   2589  CG1 VAL A 336      35.746  42.933  42.179  1.00 21.20           C
ATOM   2590  CG2 VAL A 336      36.467  41.513  44.067  1.00 21.28           C
ATOM   2591  N   GLY A 337      34.146  45.421  44.080  1.00 19.82           N
ATOM   2592  CA  GLY A 337      33.492  46.598  43.568  1.00 19.66           C
ATOM   2593  C   GLY A 337      34.130  47.906  43.981  1.00 19.56           C
ATOM   2594  O   GLY A 337      34.510  48.693  43.131  1.00 19.35           O
ATOM   2595  N   PRO A 338      34.202  48.162  45.278  1.00 19.93           N
ATOM   2596  CA  PRO A 338      34.846  49.383  45.790  1.00 19.88           C
ATOM   2597  C   PRO A 338      36.272  49.631  45.254  1.00 19.22           C
ATOM   2598  O   PRO A 338      36.591  50.758  44.908  1.00 18.43           O
ATOM   2599  CB  PRO A 338      34.830  49.191  47.316  1.00 19.61           C
ATOM   2600  CG  PRO A 338      33.625  48.380  47.555  1.00 20.33           C
ATOM   2601  CD  PRO A 338      33.579  47.367  46.359  1.00 20.75           C
ATOM   2602  N   LEU A 339      37.107  48.612  45.171  1.00 19.21           N
ATOM   2603  CA  LEU A 339      38.416  48.814  44.566  1.00 19.65           C
ATOM   2604  C   LEU A 339      38.283  49.219  43.081  1.00 19.35           C
ATOM   2605  O   LEU A 339      38.927  50.188  42.621  1.00 17.91           O
ATOM   2606  CB  LEU A 339      39.279  47.570  44.693  1.00 20.38           C
ATOM   2607  CG  LEU A 339      40.745  47.814  44.291  1.00 21.96           C
ATOM   2608  CD1 LEU A 339      41.681  47.151  45.220  1.00 25.12           C
ATOM   2609  CD2 LEU A 339      40.991  47.293  42.899  1.00 22.54           C
ATOM   2610  N   LEU A 340      37.420  48.512  42.345  1.00 19.18           N
ATOM   2611  CA  LEU A 340      37.231  48.821  40.928  1.00 19.26           C
ATOM   2612  C   LEU A 340      36.764  50.260  40.746  1.00 19.52           C
ATOM   2613  O   LEU A 340      37.306  50.989  39.893  1.00 18.71           O
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ATOM	2614	CB	LEU	A	340	36.260	47.857	40.273	1.00	19.85	C
ATOM	2615	CG	LEU	A	340	36.823	46.470	39.960	1.00	21.77	C
ATOM	2616	CD1	LEU	A	340	35.745	45.671	39.299	1.00	22.81	C
ATOM	2617	CD2	LEU	A	340	38.088	46.539	39.072	1.00	21.14	C
ATOM	2618	N	ASN	A	341	35.798	50.676	41.570	1.00	19.12	N
ATOM	2619	CA	ASN	A	341	35.296	52.052	41.536	1.00	20.43	C
ATOM	2620	C	ASN	A	341	36.367	53.086	41.865	1.00	19.90	C
ATOM	2621	O	ASN	A	341	36.474	54.110	41.206	1.00	19.81	O
ATOM	2622	CB	ASN	A	341	34.090	52.232	42.485	1.00	20.40	C
ATOM	2623	CG	ASN	A	341	32.814	51.659	41.898	1.00	24.06	C
ATOM	2624	OD1	ASN	A	341	32.390	52.073	40.829	1.00	31.36	O
ATOM	2625	ND2	ASN	A	341	32.229	50.666	42.561	1.00	25.82	N
ATOM	2626	N	THR	A	342	37.129	52.812	42.912	1.00	19.43	N
ATOM	2627	CA	THR	A	342	38.227	53.664	43.305	1.00	19.71	C
ATOM	2628	C	THR	A	342	39.230	53.781	42.154	1.00	19.45	C
ATOM	2629	O	THR	A	342	39.739	54.859	41.893	1.00	19.23	O
ATOM	2630	CB	THR	A	342	38.873	53.073	44.555	1.00	20.44	C
ATOM	2631	OG1	THR	A	342	38.030	53.322	45.700	1.00	21.13	O
ATOM	2632	CG2	THR	A	342	40.208	53.756	44.874	1.00	20.71	C
ATOM	2633	N	MET	A	343	39.464	52.691	41.427	1.00	19.49	N
ATOM	2634	CA	MET	A	343	40.381	52.723	40.287	1.00	19.90	C
ATOM	2635	C	MET	A	343	39.932	53.649	39.164	1.00	19.94	C
ATOM	2636	O	MET	A	343	40.775	54.344	38.567	1.00	18.43	O
ATOM	2637	CB	MET	A	343	40.543	51.347	39.664	1.00	19.92	C
ATOM	2638	CG	MET	A	343	41.701	50.556	40.115	1.00	23.07	C
ATOM	2639	SD	MET	A	343	42.163	49.194	38.959	1.00	24.93	S
ATOM	2640	CE	MET	A	343	41.013	48.220	39.315	1.00	27.48	C
ATOM	2641	N	ILE	A	344	38.629	53.643	38.837	1.00	20.84	N
ATOM	2642	CA	ILE	A	344	38.159	54.412	37.679	1.00	21.51	C
ATOM	2643	C	ILE	A	344	37.624	55.800	37.918	1.00	21.46	C
ATOM	2644	O	ILE	A	344	37.751	56.639	37.018	1.00	21.65	O
ATOM	2645	CB	ILE	A	344	37.089	53.641	36.805	1.00	22.58	C
ATOM	2646	CG1	ILE	A	344	35.714	53.723	37.435	1.00	24.65	C
ATOM	2647	CG2	ILE	A	344	37.506	52.220	36.555	1.00	23.63	C
ATOM	2648	CD1	ILE	A	344	34.635	53.407	36.511	1.00	28.35	C
ATOM	2649	N	LYS	A	345	37.009	56.092	39.062	1.00	21.48	N
ATOM	2650	CA	LYS	A	345	36.410	57.433	39.154	1.00	22.11	C
ATOM	2651	C	LYS	A	345	37.382	58.569	39.127	1.00	20.79	C
ATOM	2652	O	LYS	A	345	38.380	58.614	39.863	1.00	20.06	O
ATOM	2653	CB	LYS	A	345	35.405	57.656	40.279	1.00	23.49	C
ATOM	2654	CG	LYS	A	345	35.497	56.838	41.473	1.00	28.03	C
ATOM	2655	CD	LYS	A	345	34.120	56.183	41.683	1.00	30.07	C
ATOM	2656	CE	LYS	A	345	33.282	56.986	42.624	1.00	32.44	C
ATOM	2657	NZ	LYS	A	345	33.859	56.977	43.982	1.00	36.32	N
ATOM	2658	N	GLY	A	346	37.062	59.501	38.243	1.00	19.28	N
ATOM	2659	CA	GLY	A	346	37.911	60.636	38.013	1.00	18.60	C
ATOM	2660	C	GLY	A	346	39.222	60.254	37.350	1.00	17.41	C
ATOM	2661	O	GLY	A	346	40.090	61.079	37.229	1.00	18.04	O
ATOM	2662	N	ARG	A	347	39.353	59.024	36.898	1.00	17.62	N
ATOM	2663	CA	ARG	A	347	40.616	58.563	36.297	1.00	17.91	C
ATOM	2664	C	ARG	A	347	40.415	57.992	34.874	1.00	18.08	C
ATOM	2665	O	ARG	A	347	41.108	58.395	33.938	1.00	17.06	O
ATOM	2666	CB	ARG	A	347	41.284	57.532	37.213	1.00	17.51	C
ATOM	2667	CG	ARG	A	347	41.719	58.081	38.592	1.00	15.94	C
ATOM	2668	CD	ARG	A	347	43.179	57.649	38.985	1.00	19.49	C
ATOM	2669	NE	ARG	A	347	43.165	56.242	38.980	1.00	18.58	N
ATOM	2670	CZ	ARG	A	347	44.048	55.405	38.518	1.00	14.88	C
ATOM	2671	NH1	ARG	A	347	45.271	55.726	38.085	1.00	17.47	N
ATOM	2672	NH2	ARG	A	347	43.678	54.158	38.611	1.00	11.18	N
ATOM	2673	N	TYR	A	348	39.450	57.091	34.732	1.00	18.81	N
ATOM	2674	CA	TYR	A	348	39.098	56.480	33.444	1.00	20.50	C

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ATOM   2675  C   TYR A 348      37.637  56.691  33.036  1.00 22.07           C
ATOM   2676  O   TYR A 348      37.233  56.236  31.978  1.00 22.11           O
ATOM   2677  CB  TYR A 348      39.311  54.963  33.478  1.00 19.77           C
ATOM   2678  CG  TYR A 348      40.753  54.545  33.561  1.00 20.36           C
ATOM   2679  CD1 TYR A 348      41.540  54.483  32.422  1.00 19.91           C
ATOM   2680  CD2 TYR A 348      41.335  54.225  34.780  1.00 18.20           C
ATOM   2681  CE1 TYR A 348      42.859  54.099  32.489  1.00 19.81           C
ATOM   2682  CE2 TYR A 348      42.662  53.841  34.863  1.00 19.47           C
ATOM   2683  CZ  TYR A 348      43.425  53.785  33.711  1.00 19.43           C
ATOM   2684  OH  TYR A 348      44.742  53.414  33.773  1.00 15.61           O
ATOM   2685  N   ASN A 349      36.820  57.344  33.850  1.00 24.37           N
ATOM   2686  CA  ASN A 349      35.414  57.472  33.456  1.00 26.66           C
ATOM   2687  C   ASN A 349      34.941  58.854  33.092  1.00 28.03           C
ATOM   2688  O   ASN A 349      35.663  59.847  32.992  1.00 27.79           O
ATOM   2689  CB  ASN A 349      34.498  56.919  34.518  1.00 26.23           C
ATOM   2690  CG  ASN A 349      34.463  57.764  35.748  1.00 27.89           C
ATOM   2691  OD1 ASN A 349      35.247  58.718  35.927  1.00 27.38           O
ATOM   2692  ND2 ASN A 349      33.545  57.409  36.645  1.00 32.46           N
ATOM   2693  OXT ASN A 349      33.736  58.963  32.900  1.00 32.44           O
TER    2694       ASN A 349
ATOM   2695  N   LEU S 795      45.819  35.786  30.984  1.00 36.91           N
ATOM   2696  CA  LEU S 795      44.711  36.756  31.250  1.00 37.26           C
ATOM   2697  C   LEU S 795      43.553  36.418  30.323  1.00 37.49           C
ATOM   2698  O   LEU S 795      42.391  36.451  30.712  1.00 36.90           O
ATOM   2699  CB  LEU S 795      45.183  38.186  31.044  1.00 37.26           C
ATOM   2700  CG  LEU S 795      44.683  39.204  32.074  1.00 37.32           C
ATOM   2701  CD1 LEU S 795      44.775  38.671  33.479  1.00 37.34           C
ATOM   2702  CD2 LEU S 795      45.479  40.493  32.006  1.00 37.95           C
ATOM   2703  N   THR S 796      43.907  36.155  29.076  1.00 38.07           N
ATOM   2704  CA  THR S 796      43.029  35.548  28.076  1.00 39.17           C
ATOM   2705  C   THR S 796      42.608  34.088  28.347  1.00 38.93           C
ATOM   2706  O   THR S 796      41.784  33.533  27.622  1.00 39.51           O
ATOM   2707  CB  THR S 796      43.750  35.628  26.705  1.00 39.45           C
ATOM   2708  OG1 THR S 796      43.287  34.597  25.850  1.00 41.87           O
ATOM   2709  CG2 THR S 796      45.232  35.275  26.824  1.00 40.14           C
ATOM   2710  N   SER S 797      43.154  33.451  29.369  1.00 38.98           N
ATOM   2711  CA  SER S 797      42.770  32.067  29.654  1.00 39.24           C
ATOM   2712  C   SER S 797      41.370  31.981  30.274  1.00 39.32           C
ATOM   2713  O   SER S 797      40.901  32.905  30.939  1.00 38.28           O
ATOM   2714  CB  SER S 797      43.775  31.398  30.574  1.00 38.98           C
ATOM   2715  OG  SER S 797      43.613  31.884  31.891  1.00 40.40           O
ATOM   2716  N   TYR S 798      40.713  30.851  30.059  1.00 39.93           N
ATOM   2717  CA  TYR S 798      39.345  30.682  30.515  1.00 40.53           C
ATOM   2718  C   TYR S 798      39.088  29.350  31.183  1.00 39.72           C
ATOM   2719  O   TYR S 798      39.797  28.383  30.958  1.00 39.72           O
ATOM   2720  CB  TYR S 798      38.377  30.881  29.351  1.00 41.28           C
ATOM   2721  CG  TYR S 798      38.524  29.939  28.171  1.00 44.57           C
ATOM   2722  CD1 TYR S 798      39.574  30.071  27.261  1.00 47.13           C
ATOM   2723  CD2 TYR S 798      37.574  28.953  27.932  1.00 47.85           C
ATOM   2724  CE1 TYR S 798      39.692  29.219  26.163  1.00 48.81           C
ATOM   2725  CE2 TYR S 798      37.680  28.094  26.833  1.00 50.32           C
ATOM   2726  CZ  TYR S 798      38.744  28.229  25.955  1.00 49.97           C
ATOM   2727  OH  TYR S 798      38.835  27.387  24.866  1.00 49.58           O
ATOM   2728  N   ASP S 799      38.051  29.306  32.005  1.00 39.16           N
ATOM   2729  CA  ASP S 799      37.676  28.076  32.690  1.00 38.61           C
ATOM   2730  C   ASP S 799      36.588  27.391  31.868  1.00 37.26           C
ATOM   2731  O   ASP S 799      36.468  27.657  30.671  1.00 36.81           O
ATOM   2732  CB  ASP S 799      37.186  28.399  34.105  1.00 39.29           C
ATOM   2733  CG  ASP S 799      37.303  27.223  35.048  1.00 40.55           C
ATOM   2734  OD1 ASP S 799      36.767  26.128  34.756  1.00 41.68           O
ATOM   2735  OD2 ASP S 799      37.913  27.319  36.121  1.00 45.38           O
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ATOM   2736  N   CYS S 800      35.795  26.517  32.486  1.00 35.61           N
ATOM   2737  CA  CYS S 800      34.781  25.787  31.732  1.00 34.66           C
ATOM   2738  C   CYS S 800      33.439  25.714  32.450  1.00 34.03           C
ATOM   2739  O   CYS S 800      32.749  24.708  32.388  1.00 33.81           O
ATOM   2740  CB  CYS S 800      35.274  24.380  31.423  1.00 34.32           C
ATOM   2741  SG  CYS S 800      35.538  23.392  32.911  1.00 33.88           S
ATOM   2742  N   GLU S 801      33.051  26.792  33.101  1.00 33.69           N
ATOM   2743  CA  GLU S 801      31.808  26.803  33.859  1.00 33.94           C
ATOM   2744  C   GLU S 801      30.551  26.980  32.991  1.00 33.69           C
ATOM   2745  O   GLU S 801      30.520  27.739  32.012  1.00 32.67           O
ATOM   2746  CB  GLU S 801      31.886  27.877  34.942  1.00 34.03           C
ATOM   2747  CG  GLU S 801      33.128  27.703  35.818  1.00 36.03           C
ATOM   2748  CD  GLU S 801      33.095  28.557  37.065  1.00 36.15           C
ATOM   2749  OE1 GLU S 801      32.408  28.163  38.013  1.00 35.62           O
ATOM   2750  OE2 GLU S 801      33.751  29.619  37.090  1.00 38.69           O
ATOM   2751  N   VAL S 802      29.519  26.242  33.377  1.00 33.95           N
ATOM   2752  CA  VAL S 802      28.244  26.223  32.691  1.00 33.82           C
ATOM   2753  C   VAL S 802      27.137  26.148  33.735  1.00 34.17           C
ATOM   2754  O   VAL S 802      27.408  25.928  34.908  1.00 33.56           O
ATOM   2755  CB  VAL S 802      28.139  24.972  31.781  1.00 33.63           C
ATOM   2756  CG1 VAL S 802      29.263  24.948  30.753  1.00 32.61           C
ATOM   2757  CG2 VAL S 802      28.165  23.682  32.624  1.00 33.77           C
ATOM   2758  N   ASN S 803      25.887  26.304  33.300  1.00 35.05           N
ATOM   2759  CA  ASN S 803      24.745  26.222  34.204  1.00 35.82           C
ATOM   2760  C   ASN S 803      24.457  24.784  34.642  1.00 37.45           C
ATOM   2761  O   ASN S 803      23.379  24.241  34.387  1.00 37.12           O
ATOM   2762  CB  ASN S 803      23.490  26.836  33.573  1.00 35.36           C
ATOM   2763  CG  ASN S 803      23.548  28.344  33.506  1.00 33.54           C
ATOM   2764  OD1 ASN S 803      24.605  28.941  33.685  1.00 32.05           O
ATOM   2765  ND2 ASN S 803      22.414  28.967  33.230  1.00 29.41           N
ATOM   2766  N   ALA S 804      25.442  24.187  35.298  1.00 39.28           N
ATOM   2767  CA  ALA S 804      25.340  22.846  35.855  1.00 41.13           C
ATOM   2768  C   ALA S 804      26.566  22.620  36.734  1.00 42.43           C
ATOM   2769  O   ALA S 804      27.638  23.153  36.464  1.00 42.47           O
ATOM   2770  CB  ALA S 804      25.277  21.791  34.762  1.00 41.08           C
ATOM   2771  N   PRO S 805      26.410  21.830  37.786  1.00 44.47           N
ATOM   2772  CA  PRO S 805      27.527  21.527  38.697  1.00 45.68           C
ATOM   2773  C   PRO S 805      28.568  20.620  38.053  1.00 46.82           C
ATOM   2774  O   PRO S 805      28.273  19.918  37.092  1.00 47.40           O
ATOM   2775  CB  PRO S 805      26.847  20.783  39.854  1.00 45.66           C
ATOM   2776  CG  PRO S 805      25.588  20.206  39.261  1.00 45.01           C
ATOM   2777  CD  PRO S 805      25.161  21.146  38.177  1.00 44.63           C
ATOM   2778  N   ILE S 806      29.770  20.613  38.605  1.00 48.31           N
ATOM   2779  CA  ILE S 806      30.847  19.766  38.098  1.00 49.34           C
ATOM   2780  C   ILE S 806      30.661  18.323  38.555  1.00 49.57           C
ATOM   2781  O   ILE S 806      29.992  18.063  39.560  1.00 50.13           O
ATOM   2782  CB  ILE S 806      32.215  20.311  38.574  1.00 49.85           C
ATOM   2783  CG1 ILE S 806      32.410  20.058  40.074  1.00 50.64           C
ATOM   2784  CG2 ILE S 806      32.327  21.816  38.250  1.00 50.45           C
ATOM   2785  CD1 ILE S 806      33.724  20.605  40.624  1.00 51.43           C
ATOM   2786  N   LEU S 813      29.871   8.315  36.218  1.00 46.23           N
ATOM   2787  CA  LEU S 813      30.588   8.788  35.034  1.00 46.32           C
ATOM   2788  C   LEU S 813      29.685   9.635  34.140  1.00 45.87           C
ATOM   2789  O   LEU S 813      28.463   9.511  34.185  1.00 45.43           O
ATOM   2790  CB  LEU S 813      31.166   7.606  34.243  1.00 46.25           C
ATOM   2791  CG  LEU S 813      32.057   6.663  35.059  1.00 46.61           C
ATOM   2792  CD1 LEU S 813      32.444   5.423  34.230  1.00 46.51           C
ATOM   2793  CD2 LEU S 813      33.292   7.406  35.579  1.00 45.98           C
ATOM   2794  N   GLN S 814      30.309  10.503  33.351  1.00 45.81           N
ATOM   2795  CA  GLN S 814      29.595  11.400  32.446  1.00 45.92           C
ATOM   2796  C   GLN S 814      30.497  11.838  31.296  1.00 45.66           C
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ATOM   2797  O   GLN S 814      31.706  11.626  31.329  1.00 45.05           O
ATOM   2798  CB  GLN S 814      29.123  12.643  33.198  1.00 46.09           C
ATOM   2799  CG  GLN S 814      30.265  13.531  33.696  1.00 47.32           C
ATOM   2800  CD  GLN S 814      29.781  14.722  34.520  1.00 49.22           C
ATOM   2801  OE1 GLN S 814      29.165  14.541  35.569  1.00 50.40           O
ATOM   2802  NE2 GLN S 814      30.070  15.937  34.053  1.00 49.45           N
ATOM   2803  N   GLY S 815      29.898  12.476  30.294  1.00 45.88           N
ATOM   2804  CA  GLY S 815      30.621  12.956  29.135  1.00 45.84           C
ATOM   2805  C   GLY S 815      31.426  11.863  28.462  1.00 46.13           C
ATOM   2806  O   GLY S 815      30.968  10.732  28.339  1.00 45.49           O
ATOM   2807  N   GLU S 816      32.633  12.216  28.035  1.00 46.94           N
ATOM   2808  CA  GLU S 816      33.548  11.285  27.382  1.00 48.03           C
ATOM   2809  C   GLU S 816      33.721   9.994  28.186  1.00 48.62           C
ATOM   2810  O   GLU S 816      33.823   8.910  27.614  1.00 48.54           O
ATOM   2811  CB  GLU S 816      34.920  11.948  27.184  1.00 48.06           C
ATOM   2812  CG  GLU S 816      35.783  11.312  26.102  1.00 48.93           C
ATOM   2813  CD  GLU S 816      37.189  11.887  26.062  1.00 49.77           C
ATOM   2814  OE1 GLU S 816      38.031  11.413  26.848  1.00 50.86           O
ATOM   2815  OE2 GLU S 816      37.457  12.802  25.247  1.00 49.55           O
ATOM   2816  N   GLU S 817      33.737  10.112  29.509  1.00 49.67           N
ATOM   2817  CA  GLU S 817      33.947   8.957  30.373  1.00 50.75           C
ATOM   2818  C   GLU S 817      32.786   7.982  30.309  1.00 51.10           C
ATOM   2819  O   GLU S 817      32.989   6.771  30.278  1.00 51.12           O
ATOM   2820  CB  GLU S 817      34.164   9.406  31.815  1.00 50.97           C
ATOM   2821  CG  GLU S 817      35.476  10.140  32.032  1.00 52.22           C
ATOM   2822  CD  GLU S 817      35.395  11.637  31.764  1.00 54.47           C
ATOM   2823  OE1 GLU S 817      34.289  12.166  31.489  1.00 55.57           O
ATOM   2824  OE2 GLU S 817      36.456  12.296  31.833  1.00 56.41           O
ATOM   2825  N   LEU S 818      31.572   8.521  30.295  1.00 51.81           N
ATOM   2826  CA  LEU S 818      30.376   7.706  30.204  1.00 52.37           C
ATOM   2827  C   LEU S 818      30.399   6.929  28.901  1.00 53.14           C
ATOM   2828  O   LEU S 818      30.216   5.714  28.894  1.00 53.00           O
ATOM   2829  CB  LEU S 818      29.116   8.575  30.258  1.00 52.25           C
ATOM   2830  CG  LEU S 818      27.786   7.814  30.176  1.00 52.17           C
ATOM   2831  CD1 LEU S 818      27.661   6.836  31.335  1.00 52.37           C
ATOM   2832  CD2 LEU S 818      26.596   8.749  30.173  1.00 51.16           C
ATOM   2833  N   LEU S 819      30.660   7.643  27.809  1.00 54.00           N
ATOM   2834  CA  LEU S 819      30.623   7.068  26.465  1.00 54.73           C
ATOM   2835  C   LEU S 819      31.573   5.874  26.295  1.00 55.32           C
ATOM   2836  O   LEU S 819      31.171   4.823  25.794  1.00 55.08           O
ATOM   2837  CB  LEU S 819      30.929   8.162  25.426  1.00 54.66           C
ATOM   2838  CG  LEU S 819      30.838   7.789  23.942  1.00 54.90           C
ATOM   2839  CD1 LEU S 819      29.480   7.239  23.559  1.00 54.56           C
ATOM   2840  CD2 LEU S 819      31.170   8.997  23.088  1.00 55.68           C
ATOM   2841  N   ARG S 820      32.821   6.036  26.725  1.00 55.92           N
ATOM   2842  CA  ARG S 820      33.817   4.987  26.576  1.00 56.75           C
ATOM   2843  C   ARG S 820      33.488   3.762  27.428  1.00 56.92           C
ATOM   2844  O   ARG S 820      33.578   2.617  26.951  1.00 56.86           O
ATOM   2845  CB  ARG S 820      35.207   5.530  26.915  1.00 57.13           C
ATOM   2846  CG  ARG S 820      35.638   6.596  25.927  1.00 58.55           C
ATOM   2847  CD  ARG S 820      37.073   7.038  26.036  1.00 60.19           C
ATOM   2848  NE  ARG S 820      37.336   8.126  25.096  1.00 62.23           N
ATOM   2849  CZ  ARG S 820      38.465   8.831  25.039  1.00 64.08           C
ATOM   2850  NH1 ARG S 820      39.475   8.567  25.865  1.00 64.81           N
ATOM   2851  NH2 ARG S 820      38.586   9.805  24.142  1.00 64.58           N
ATOM   2852  N   ALA S 821      33.109   4.003  28.682  1.00 56.90           N
ATOM   2853  CA  ALA S 821      32.713   2.919  29.567  1.00 56.79           C
ATOM   2854  C   ALA S 821      31.611   2.106  28.880  1.00 56.74           C
ATOM   2855  O   ALA S 821      31.665   0.873  28.843  1.00 56.66           O
ATOM   2856  CB  ALA S 821      32.236   3.463  30.899  1.00 56.66           C
ATOM   2857  N   LEU S 822      30.629   2.806  28.317  1.00 56.51           N
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ATOM   2858  CA  LEU S 822      29.537   2.155  27.607  1.00 56.58           C
ATOM   2859  C   LEU S 822      30.031   1.473  26.338  1.00 56.66           C
ATOM   2860  O   LEU S 822      29.482   0.451  25.931  1.00 57.09           O
ATOM   2861  CB  LEU S 822      28.451   3.167  27.250  1.00 56.48           C
ATOM   2862  CG  LEU S 822      27.681   3.779  28.417  1.00 56.11           C
ATOM   2863  CD1 LEU S 822      26.543   4.612  27.870  1.00 55.96           C
ATOM   2864  CD2 LEU S 822      27.156   2.717  29.379  1.00 55.80           C
TER    2865      LEU S 822
HETATM 2866 FE   FE2 A1350      23.313  27.671  28.779  1.00 22.12          FE
HETATM 2867  C1  AKG A1351      22.355  25.315  27.747  1.00 25.61           C
HETATM 2868  O1  AKG A1351      23.449  25.880  27.756  1.00 27.58           O
HETATM 2869  O2  AKG A1351      22.172  24.103  27.197  1.00 27.99           O
HETATM 2870  C2  AKG A1351      21.128  25.999  28.365  1.00 24.14           C
HETATM 2871  O5  AKG A1351      21.211  27.117  28.854  1.00 23.66           O
HETATM 2872  C3  AKG A1351      19.829  25.231  28.280  1.00 23.46           C
HETATM 2873  C4  AKG A1351      18.717  25.967  29.008  1.00 22.15           C
HETATM 2874  C5  AKG A1351      17.351  25.435  28.649  1.00 23.90           C
HETATM 2875  O3  AKG A1351      17.136  24.674  27.706  1.00 23.27           O
HETATM 2876  O4  AKG A1351      16.353  25.844  29.406  1.00 25.34           O
HETATM 2877  S   SO4 A1352       0.196  25.255  43.681  1.00 83.69           S
HETATM 2878  O1  SO4 A1352       1.049  26.078  44.531  1.00 83.03           O
HETATM 2879  O2  SO4 A1352       1.028  24.391  42.840  1.00 82.84           O
HETATM 2880  O3  SO4 A1352      -0.643  24.431  44.542  1.00 83.90           O
HETATM 2881  O4  SO4 A1352      -0.630  26.114  42.830  1.00 82.82           O
HETATM 2882  S   SO4 A1353       1.937  28.607  29.759  1.00 80.69           S
HETATM 2883  O1  SO4 A1353       3.164  29.179  30.298  1.00 79.82           O
HETATM 2884  O2  SO4 A1353       2.228  27.552  28.793  1.00 79.89           O
HETATM 2885  O3  SO4 A1353       1.188  28.079  30.902  1.00 82.14           O
HETATM 2886  O4  SO4 A1353       1.145  29.630  29.081  1.00 81.49           O
HETATM 2887  O   HOH H    1     38.423  33.864  31.899  1.00 39.52           O
HETATM 2888  O   HOH H    2     38.025  25.366  29.554  1.00 64.59           O
HETATM 2889  O   HOH H    3     34.915  30.689  35.190  1.00 34.36           O
HETATM 2890  O   HOH H    4     20.482  27.037  33.306  1.00 55.20           O
HETATM 2891  O   HOH H    5     21.066  24.447  32.916  1.00 43.55           O
HETATM 2892  O   HOH H    6     29.978  24.394  35.721  1.00 43.81           O
HETATM 2893  O   HOH H    7     29.346  18.985  42.744  1.00 86.25           O
HETATM 2894  O   HOH H    8     35.530  13.904  24.157  1.00 42.65           O
HETATM 2895  O   HOH H    9     33.804  -1.383  26.877  1.00 65.05           O
HETATM 2896  O   HOH Z    1     11.560  21.626  13.846  1.00 41.47           O
HETATM 2897  O   HOH Z    2      9.590  21.877  12.314  1.00 61.59           O
HETATM 2898  O   HOH Z    3      1.321  21.339   7.657  1.00 58.53           O
HETATM 2899  O   HOH Z    4      3.579  13.365   8.778  1.00 47.77           O
HETATM 2900  O   HOH Z    5      4.515  16.855   3.766  1.00 51.50           O
HETATM 2901  O   HOH Z    6      2.462  19.552   5.161  1.00 56.40           O
HETATM 2902  O   HOH Z    7      1.251  29.413  13.184  1.00 52.18           O
HETATM 2903  O   HOH Z    8      2.053  32.304  13.875  1.00 71.43           O
HETATM 2904  O   HOH Z    9     11.574  44.907  14.867  1.00 67.18           O
HETATM 2905  O   HOH Z   10     11.615   3.238  17.221  1.00 63.99           O
HETATM 2906  O   HOH Z   11      3.752  32.951  32.375  1.00 72.66           O
HETATM 2907  O   HOH Z   12      4.803  37.611  27.421  1.00 63.47           O
HETATM 2908  O   HOH Z   13     11.007  35.734  30.393  1.00 34.95           O
HETATM 2909  O   HOH Z   14     15.551  46.392  24.481  1.00 43.01           O
HETATM 2910  O   HOH Z   15     12.231  41.979  15.720  1.00 53.94           O
HETATM 2911  O   HOH Z   16     13.868   4.815  17.661  1.00 48.46           O
HETATM 2912  O   HOH Z   17     15.860  30.606  12.755  1.00 44.45           O
HETATM 2913  O   HOH Z   18     13.462  22.030   7.390  1.00 59.18           O
HETATM 2914  O   HOH Z   19     14.706  26.336  13.845  1.00 51.42           O
HETATM 2915  O   HOH Z   20     17.028  29.994   7.603  1.00 64.07           O
HETATM 2916  O   HOH Z   21     21.135  23.988   3.773  1.00 46.32           O
HETATM 2917  O   HOH Z   22     27.581  31.130   6.026  1.00 64.13           O
HETATM 2918  O   HOH Z   23     27.341  22.242  43.414  1.00 79.43           O
```

HETATM	2919	O	HOH	Z	24	36.742	29.331	21.279	1.00	50.70	O
HETATM	2920	O	HOH	Z	25	30.029	33.533	9.206	1.00	50.33	O
HETATM	2921	O	HOH	Z	26	29.955	37.104	10.551	1.00	70.40	O
HETATM	2922	O	HOH	Z	27	18.215	15.129	13.036	1.00	37.33	O
HETATM	2923	O	HOH	Z	28	29.069	5.533	17.355	1.00	44.84	O
HETATM	2924	O	HOH	Z	29	18.941	14.771	16.383	1.00	31.41	O
HETATM	2925	O	HOH	Z	30	13.624	7.655	18.343	1.00	46.45	O
HETATM	2926	O	HOH	Z	31	5.649	12.667	27.758	1.00	44.15	O
HETATM	2927	O	HOH	Z	32	18.818	6.772	36.717	1.00	51.59	O
HETATM	2928	O	HOH	Z	33	7.620	14.589	19.463	1.00	50.93	O
HETATM	2929	O	HOH	Z	34	20.087	9.746	36.974	1.00	52.81	O
HETATM	2930	O	HOH	Z	35	21.912	13.173	44.511	1.00	59.64	O
HETATM	2931	O	HOH	Z	36	29.233	39.992	16.108	1.00	75.75	O
HETATM	2932	O	HOH	Z	37	33.785	44.067	25.671	1.00	62.06	O
HETATM	2933	O	HOH	Z	38	15.613	37.779	35.493	1.00	52.50	O
HETATM	2934	O	HOH	Z	39	8.070	38.292	35.056	1.00	60.61	O
HETATM	2935	O	HOH	Z	40	16.339	30.957	40.378	1.00	43.15	O
HETATM	2936	O	HOH	Z	41	28.116	27.147	37.617	1.00	59.20	O
HETATM	2937	O	HOH	Z	42	29.707	30.087	39.279	1.00	54.89	O
HETATM	2938	O	HOH	Z	43	28.116	24.509	42.048	1.00	63.13	O
HETATM	2939	O	HOH	Z	44	25.074	24.801	42.258	1.00	54.81	O
HETATM	2940	O	HOH	Z	45	33.873	31.493	39.077	1.00	45.97	O
HETATM	2941	O	HOH	Z	46	31.533	33.860	46.118	1.00	50.65	O
HETATM	2942	O	HOH	Z	47	13.319	35.957	31.390	1.00	44.72	O
HETATM	2943	O	HOH	Z	48	27.155	38.119	52.311	1.00	64.05	O
HETATM	2944	O	HOH	Z	49	24.587	38.767	49.612	1.00	50.58	O
HETATM	2945	O	HOH	Z	50	21.687	17.630	48.071	1.00	77.36	O
HETATM	2946	O	HOH	Z	51	21.437	14.872	40.880	1.00	60.20	O
HETATM	2947	O	HOH	Z	52	24.790	15.406	39.359	1.00	78.81	O
HETATM	2948	O	HOH	Z	53	23.347	17.356	36.625	1.00	52.48	O
HETATM	2949	O	HOH	Z	54	21.628	10.475	34.469	1.00	47.30	O
HETATM	2950	O	HOH	Z	55	18.013	-1.527	33.036	1.00	61.93	O
HETATM	2951	O	HOH	Z	56	16.101	-0.104	30.078	1.00	59.33	O
HETATM	2952	O	HOH	Z	57	26.268	5.539	16.988	1.00	38.42	O
HETATM	2953	O	HOH	Z	58	30.916	16.527	11.437	1.00	44.01	O
HETATM	2954	O	HOH	Z	59	32.683	13.953	20.664	1.00	50.04	O
HETATM	2955	O	HOH	Z	60	36.797	10.766	7.771	1.00	80.75	O
HETATM	2956	O	HOH	Z	61	33.878	26.222	17.133	1.00	45.23	O
HETATM	2957	O	HOH	Z	62	13.442	21.089	28.459	1.00	36.04	O
HETATM	2958	O	HOH	Z	63	3.999	21.370	30.471	1.00	47.33	O
HETATM	2959	O	HOH	Z	64	30.697	38.141	33.290	1.00	31.70	O
HETATM	2960	O	HOH	Z	65	26.005	26.456	26.227	1.00	28.76	O
HETATM	2961	O	HOH	Z	66	36.729	32.146	33.280	1.00	42.61	O
HETATM	2962	O	HOH	Z	67	35.846	25.574	27.896	1.00	34.95	O
HETATM	2963	O	HOH	Z	68	36.793	26.712	21.173	1.00	33.97	O
HETATM	2964	O	HOH	Z	69	17.427	17.022	18.148	1.00	31.28	O
HETATM	2965	O	HOH	Z	70	9.904	13.694	19.533	1.00	41.70	O
HETATM	2966	O	HOH	Z	71	5.361	16.931	22.051	1.00	43.04	O
HETATM	2967	O	HOH	Z	72	7.094	16.984	20.250	1.00	43.57	O
HETATM	2968	O	HOH	Z	73	6.562	22.961	22.902	1.00	42.74	O
HETATM	2969	O	HOH	Z	74	29.508	38.942	26.471	1.00	26.72	O
HETATM	2970	O	HOH	Z	75	30.732	39.209	19.135	1.00	37.64	O
HETATM	2971	O	HOH	Z	76	26.368	42.318	17.836	1.00	57.14	O
HETATM	2972	O	HOH	Z	77	27.688	44.616	31.257	1.00	30.61	O
HETATM	2973	O	HOH	Z	78	30.230	44.988	25.170	1.00	39.14	O
HETATM	2974	O	HOH	Z	79	27.780	48.720	30.030	1.00	38.89	O
HETATM	2975	O	HOH	Z	80	25.931	50.741	30.611	1.00	40.27	O
HETATM	2976	O	HOH	Z	81	18.521	38.529	36.775	1.00	43.87	O
HETATM	2977	O	HOH	Z	82	26.678	31.402	38.482	1.00	36.08	O
HETATM	2978	O	HOH	Z	83	30.586	30.409	36.592	1.00	32.57	O
HETATM	2979	O	HOH	Z	84	29.411	37.141	35.473	1.00	26.16	O

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HETATM 2980  O   HOH Z  85      19.821  31.713  33.874  1.00 34.80           O
HETATM 2981  O   HOH Z  86      19.420  36.322  33.379  1.00 32.92           O
HETATM 2982  O   HOH Z  87      21.063  42.853  40.110  1.00 41.23           O
HETATM 2983  O   HOH Z  88      17.544  37.859  32.276  1.00 35.87           O
HETATM 2984  O   HOH Z  89       9.230  41.082  35.833  1.00 51.41           O
HETATM 2985  O   HOH Z  90       9.313  43.744  27.890  1.00 70.60           O
HETATM 2986  O   HOH Z  91      12.728  42.598  26.938  1.00 40.87           O
HETATM 2987  O   HOH Z  92      15.113  37.993  32.591  1.00 35.55           O
HETATM 2988  O   HOH Z  93      10.676  48.283  31.613  1.00 62.24           O
HETATM 2989  O   HOH Z  94      15.611  44.853  34.883  1.00 32.72           O
HETATM 2990  O   HOH Z  95      15.874  51.836  39.217  1.00 66.58           O
HETATM 2991  O   HOH Z  96      15.796  47.224  39.264  1.00 52.95           O
HETATM 2992  O   HOH Z  97      26.624  53.557  28.816  1.00 69.05           O
HETATM 2993  O   HOH Z  98      15.381  50.418  22.170  1.00 36.68           O
HETATM 2994  O   HOH Z  99      15.121  55.730  27.489  1.00 51.35           O
HETATM 2995  O   HOH Z 100      18.542  56.170  28.175  1.00 58.02           O
HETATM 2996  O   HOH Z 101      23.731  46.355  19.907  1.00 39.06           O
HETATM 2997  O   HOH Z 102      16.618  46.781  22.039  1.00 33.91           O
HETATM 2998  O   HOH Z 103      26.585  40.624  15.634  1.00 69.17           O
HETATM 2999  O   HOH Z 104      12.758  29.333  13.489  1.00 35.42           O
HETATM 3000  O   HOH Z 105      10.886  19.245  14.132  1.00 51.89           O
HETATM 3001  O   HOH Z 106      19.776  18.049  13.245  1.00 33.88           O
HETATM 3002  O   HOH Z 107      14.725  18.642  12.190  1.00 40.50           O
HETATM 3003  O   HOH Z 108      27.783  27.681  24.556  1.00 27.24           O
HETATM 3004  O   HOH Z 109      35.999  32.896  30.270  1.00 41.19           O
HETATM 3005  O   HOH Z 110      30.237  36.282  26.881  1.00 28.77           O
HETATM 3006  O   HOH Z 111      32.759  34.258  19.346  1.00 47.40           O
HETATM 3007  O   HOH Z 112      27.418  30.315  25.756  1.00 27.70           O
HETATM 3008  O   HOH Z 113      16.248  36.360  29.657  1.00 34.03           O
HETATM 3009  O   HOH Z 114       7.438  31.072  24.792  1.00 43.13           O
HETATM 3010  O   HOH Z 115       7.743  30.565  27.379  1.00 39.83           O
HETATM 3011  O   HOH Z 116       5.158  19.080  24.012  1.00 45.77           O
HETATM 3012  O   HOH Z 117       6.366  24.013  25.459  1.00 41.84           O
HETATM 3013  O   HOH Z 118      42.594  37.813  18.527  1.00 64.57           O
HETATM 3014  O   HOH Z 119      42.361  44.340  19.742  1.00 59.24           O
HETATM 3015  O   HOH Z 120      34.674  39.749  17.782  1.00 53.99           O
HETATM 3016  O   HOH Z 121      33.762  37.015  20.310  1.00 39.85           O
HETATM 3017  O   HOH Z 122      33.121  39.446  33.667  1.00 30.35           O
HETATM 3018  O   HOH Z 123      37.674  29.865  38.229  1.00 64.32           O
HETATM 3019  O   HOH Z 124      38.677  34.824  42.977  1.00 44.37           O
HETATM 3020  O   HOH Z 125      41.375  43.570  51.489  1.00 52.41           O
HETATM 3021  O   HOH Z 126      31.947  40.559  44.192  1.00 38.39           O
HETATM 3022  O   HOH Z 127      39.124  57.396  42.134  1.00 27.12           O
HETATM 3023  O   HOH Z 128      41.949  60.812  33.590  1.00 49.78           O
HETATM 3024  O   HOH Z 129      46.835  53.394  32.063  1.00 33.50           O
HETATM 3025  O   HOH Z 130      37.841  55.408  29.621  1.00 45.14           O
CONECT 1482 2866
CONECT 1502 2866
CONECT 2171 2866
CONECT 2866 2871 2868 1482 2171 1502
CONECT 2867 2868 2869 2870
CONECT 2868 2867 2866
CONECT 2869 2867
CONECT 2870 2867 2871 2872
CONECT 2871 2866 2870
CONECT 2872 2870 2873
CONECT 2873 2872 2874
CONECT 2874 2873 2875 2876
CONECT 2875 2874
CONECT 2876 2874
CONECT 2877 2878 2879 2880 2881
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CONECT 2878 2877
CONECT 2879 2877
CONECT 2880 2877
CONECT 2881 2877
CONECT 2882 2883 2884 2885 2886
CONECT 2883 2882
CONECT 2884 2882
CONECT 2885 2882
CONECT 2886 2882
MASTER      437    0    4   15   20    0    7    6 3023    2   24   31
END
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Structure 3

Below are the coordinates for structure 3 (the 2.5 Å structure of FIH:Zn(II):NOG:CAD):

```
HEADER    TRANSCRIPTION ACTIVATOR/INHIBITOR       12-AUG-02   1H2M
TITLE     FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX WITH HIF-1 ALPHA
TITLE    2 FRAGMENT PEPTIDE
COMPND    MOL_ID: 1;
COMPND   2 MOLECULE: FACTOR INHIBITING HIF1;
COMPND   3 SYNONYM: FIH1;
COMPND   4 CHAIN: A;
COMPND   5 ENGINEERED: YES;
COMPND   6 MOL_ID: 2;
COMPND   7 MOLECULE: HYPOXIA-INDUCIBLE FACTOR 1 ALPHA;
COMPND   8 SYNONYM: HIF-1 ALPHA, ARNT INTERACTING PROTEIN,
COMPND   9  MEMBER OF PAS PROTEIN 1, MOP1, HIF1 ALPHA, HIF1A.
COMPND  10 CHAIN: S;
COMPND  11 FRAGMENT: C-TERMINAL TRANSACTIVATION DOMAIN FRAGMENT
COMPND  12  RESIDUES 775 - 826
SOURCE     MOL_ID: 1;
SOURCE    2 ORGANISM_SCIENTIFIC: HOMO SAPIENS;
SOURCE    3 ORGANISM_COMMON: HUMAN;
SOURCE    4 EXPRESSION_SYSTEM: ESCHERICHIA COLI;
SOURCE    5 EXPRESSION_SYSTEM_STRAIN: BL21(DE3);
SOURCE    6 EXPRESSION_SYSTEM_PLASMID: PET28A(+);
SOURCE    7 MOL_ID: 2;
SOURCE    8 ORGANISM_SCIENTIFIC: HOMO SAPIENS;
SOURCE    9 ORGANISM_COMMON: HUMAN;
SOURCE   10 EXPRESSION_SYSTEM: ESCHERICHIA COLI;
SOURCE   11 EXPRESSION_SYSTEM_STRAIN: BL21(DE3);
SOURCE   12 EXPRESSION_SYSTEM_PLASMID: PGEX-GP-1
KEYWDS     FIH, HIF, DSBH, OXYGENASE, TRANSCRIPTION, HYPOXIA,
KEYWDS    2 2-OXOGLUTARATE, ASPARAGINYL HYDROXYLASE, HYDROXYLASE
EXPDTA     X-RAY DIFFRACTION
AUTHOR     J.M.ELKINS,K.S.HEWITSON,L.A.MCNEILL,I.SCHLEMMINGER,
AUTHOR    2 J.F.SEIBEL,C.J.SCHOFIELD
REVDAT    1   04-SEP-02 1H2M    0
JRNL        AUTH   J.M.ELKINS,K.S.HEWITSON,L.A.MCNEILL,
JRNL        AUTH 2 I.SCHLEMMINGER,J.F.SEIBEL,C.J.SCHOFIELD
JRNL        TITL   FIH:HIF-FRAGMENT COMPLEXES
JRNL        REF    TO BE PUBLISHED
JRNL        REFN
REMARK   2
REMARK   2 RESOLUTION. 2.5  ANGSTROMS.
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM      : REFMAC 5.0
REMARK   3   AUTHORS      : MURSHUDOV,VAGIN,DODSON
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   2.50
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  18.00
REMARK   3   DATA CUTOFF             (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.68
REMARK   3   NUMBER OF REFLECTIONS             :   18404
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
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REMARK   3   CROSS-VALIDATION METHOD           : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION   : RANDOM
REMARK   3   R VALUE      (WORKING + TEST SET) : 0.19432
REMARK   3   R VALUE              (WORKING SET) :  0.19185
REMARK   3   FREE R VALUE                       :  0.22491
REMARK   3   FREE R VALUE TEST SET SIZE   (%)   :  7.6
REMARK   3   FREE R VALUE TEST SET COUNT        :  1516
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED                 :       20
REMARK   3   BIN RESOLUTION RANGE HIGH                 :    2.500
REMARK   3   BIN RESOLUTION RANGE LOW                  :    2.564
REMARK   3   REFLECTION IN BIN     (WORKING SET)      :     1267
REMARK   3   BIN R VALUE           (WORKING SET)      :    0.227
REMARK   3   BIN FREE R VALUE SET COUNT               :      106
REMARK   3   BIN FREE R VALUE                         :    0.297
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   ALL ATOMS                      :     2979
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT                (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  35.778
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) :    -0.68
REMARK   3    B22 (A**2) :    -0.68
REMARK   3    B33 (A**2) :     1.35
REMARK   3    B12 (A**2) :     0.00
REMARK   3    B13 (A**2) :     0.00
REMARK   3    B23 (A**2) :     0.00
REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                                (A):   0.334
REMARK   3   ESU BASED ON FREE R VALUE                           (A):   0.233
REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                     (A):   0.224
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):   9.825
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.948
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.935
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES        COUNT    RMS     WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS          (A):  2957 ; 0.017 ; 0.021
REMARK   3   BOND LENGTHS OTHERS                 (A):  2546 ; 0.001 ; 0.020
REMARK   3   BOND ANGLES REFINED ATOMS    (DEGREES):  4022 ; 1.612 ; 1.948
REMARK   3   BOND ANGLES OTHERS           (DEGREES):  5944 ; 0.832 ; 3.000
REMARK   3   TORSION ANGLES, PERIOD 1     (DEGREES):   350 ; 4.024 ; 3.000
REMARK   3   TORSION ANGLES, PERIOD 3     (DEGREES):   512 ;18.015 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS        (A**3):   413 ; 0.097 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS         (A):  3315 ; 0.006 ; 0.020
REMARK   3   GENERAL PLANES OTHERS                (A):   602 ; 0.002 ; 0.020
REMARK   3   NON-BONDED CONTACTS REFINED ATOMS    (A):   731 ; 0.232 ; 0.300
REMARK   3   NON-BONDED CONTACTS OTHERS           (A):  2492 ; 0.214 ; 0.300
REMARK   3   H-BOND (X...Y) REFINED ATOMS         (A):   193 ; 0.173 ; 0.500
REMARK   3   H-BOND (X...Y) OTHERS                (A):     6 ; 0.126 ; 0.500
REMARK   3   POTENTIAL METAL-ION REFINED ATOMS    (A):     2 ; 0.054 ; 0.500
REMARK   3   SYMMETRY VDW REFINED ATOMS           (A):    15 ; 0.194 ; 0.300
REMARK   3   SYMMETRY VDW OTHERS                  (A):    54 ; 0.255 ; 0.300
REMARK   3   SYMMETRY H-BOND REFINED ATOMS        (A):     7 ; 0.244 ; 0.500
REMARK   3   SYMMETRY H-BOND OTHERS               (A):     1 ; 0.053 ; 0.500
REMARK   3
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REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.      COUNT   RMS     WEIGHT
REMARK   3   MAIN-CHAIN BOND REFINED ATOMS  (A**2):  1767 ; 0.761 ; 1.500
REMARK   3   MAIN-CHAIN ANGLE REFINED ATOMS (A**2):  2846 ; 1.421 ; 2.000
REMARK   3   SIDE-CHAIN BOND REFINED ATOMS  (A**2):  1190 ; 2.220 ; 3.000
REMARK   3   SIDE-CHAIN ANGLE REFINED ATOMS (A**2):  1176 ; 3.678 ; 4.500
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :    1
REMARK   3
REMARK   3   TLS GROUP :     1
REMARK   3    NUMBER OF COMPONENTS GROUP :    2
REMARK   3    COMPONENTS         C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :    A    15        A   451
REMARK   3    RESIDUE RANGE :    S   795        S   822
REMARK   3    ORIGIN FOR THE GROUP (A):  22.5990  26.9200  28.6340
REMARK   3    T TENSOR
REMARK   3      T11:   0.1903 T22:   0.0302
REMARK   3      T33:   0.0452 T12:  -0.0025
REMARK   3      T13:  -0.0536 T23:   0.0309
REMARK   3    L TENSOR
REMARK   3      L11:   0.7638 L22:   2.2674
REMARK   3      L33:   1.0629 L12:   0.7977
REMARK   3      L13:   0.4200 L23:   1.0769
REMARK   3    S TENSOR
REMARK   3      S11:   0.0306 S12:  -0.1225 S13:  -0.0490
REMARK   3      S21:   0.1656 S22:   0.0303 S23:   0.0478
REMARK   3      S31:   0.2046 S32:   0.0231 S33:  -0.0609
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED : BABINET MODEL WITH MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.40
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS:
REMARK   3  HYDROGENS HAVE BEEN ADDED IN THE RIDING POSITIONS
REMARK   4
REMARK   4 1H2M COMPLIES WITH FORMAT V. 2.3, 09-JULY-1998
REMARK 100
REMARK 100 THIS ENTRY HAS BEEN PROCESSED BY EBI  ON 12-AUG-2002.
REMARK 100 THE EBI ID CODE IS EBI-11173.
REMARK 200
REMARK 200 EXPERIMENTAL DETAILS
REMARK 200  EXPERIMENT TYPE                : X-RAY DIFFRACTION
REMARK 200  DATE OF DATA COLLECTION        : 15-MAY-2002
REMARK 200  TEMPERATURE           (KELVIN) : 100
REMARK 200  PH                             : 7.5
REMARK 200  NUMBER OF CRYSTALS USED        : 1
REMARK 200
REMARK 200  SYNCHROTRON              (Y/N) : Y
REMARK 200  RADIATION SOURCE               : SRS BEAMLINE PX9.6
REMARK 200  BEAMLINE                       : PX9.6
REMARK 200  X-RAY GENERATOR MODEL          : NULL
REMARK 200  MONOCHROMATIC OR LAUE    (M/L) : M
REMARK 200  WAVELENGTH OR RANGE        (A) : 0.87
REMARK 200  MONOCHROMATOR                  : NULL
REMARK 200  OPTICS                         : NULL
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REMARK 200
REMARK 200  DETECTOR TYPE                      : ADSC QUANTUM 4
REMARK 200  DETECTOR MANUFACTURER              : ADSC
REMARK 200  INTENSITY-INTEGRATION SOFTWARE     : MOSFLM
REMARK 200  DATA SCALING SOFTWARE              : SCALA
REMARK 200
REMARK 200  NUMBER OF UNIQUE REFLECTIONS       : 20058
REMARK 200  RESOLUTION RANGE HIGH      (A)     : 2.50
REMARK 200  RESOLUTION RANGE LOW       (A)     : 87.71
REMARK 200  REJECTION CRITERIA  (SIGMA(I))     : NONE
REMARK 200
REMARK 200 OVERALL.
REMARK 200  COMPLETENESS FOR RANGE     (%)     : 99.7
REMARK 200  DATA REDUNDANCY                    : 6.5
REMARK 200  R MERGE                    (I)     : 0.050
REMARK 200  R SYM                      (I)     : NULL
REMARK 200  <I/SIGMA(I)> FOR THE DATA SET      : 10.7
REMARK 200
REMARK 200 IN THE HIGHEST RESOLUTION SHELL.
REMARK 200  HIGHEST RESOLUTION SHELL, RANGE HIGH (A) : 2.50
REMARK 200  HIGHEST RESOLUTION SHELL, RANGE LOW  (A) : 2.64
REMARK 200  COMPLETENESS FOR SHELL     (%)     : 97.9
REMARK 200  DATA REDUNDANCY IN SHELL           : 4.4
REMARK 200  R MERGE FOR SHELL          (I)     : 0.289
REMARK 200  R SYM FOR SHELL            (I)     : NULL
REMARK 200  <I/SIGMA(I)> FOR SHELL             : 2.6
REMARK 200
REMARK 200 DIFFRACTION PROTOCOL: SINGLE WAVELENGTH
REMARK 200 METHOD USED TO DETERMINE THE STRUCTURE: MOLECULAR REPLACEMENT
REMARK 200 SOFTWARE USED: NULL
REMARK 200 STARTING MODEL: NULL
REMARK 200
REMARK 200 REMARK: NULL
REMARK 280
REMARK 280 CRYSTAL
REMARK 280 SOLVENT CONTENT, VS   (%): 63
REMARK 280 MATTHEWS COEFFICIENT, VM (ANGSTROMS**3/DA): 3.4
REMARK 280
REMARK 280 CRYSTALLIZATION CONDITIONS: 1.2M AMMONIUM SULPHATE,
REMARK 280  4% PEG400, 0.1M HEPES PH7.5, 11MG/ML PROTEIN WITH
REMARK 280  1MM FE(II), 2.5MM NOG AND 2.5MM PEPTIDE
REMARK 290
REMARK 290 CRYSTALLOGRAPHIC SYMMETRY
REMARK 290 SYMMETRY OPERATORS FOR SPACE GROUP: P 41 21 2
REMARK 290
REMARK 290       SYMOP   SYMMETRY
REMARK 290      NNNMMM   OPERATOR
REMARK 290        1555   X,Y,Z
REMARK 290        2555   -X,-Y,1/2+Z
REMARK 290        3555   1/2-Y,1/2+X,1/4+Z
REMARK 290        4555   1/2+Y,1/2-X,3/4+Z
REMARK 290        5555   1/2-X,1/2+Y,1/4-Z
REMARK 290        6555   1/2+X,1/2-Y,3/4-Z
REMARK 290        7555   Y,X,-Z
REMARK 290        8555   -Y,-X,1/2-Z
REMARK 290
REMARK 290      WHERE NNN -> OPERATOR NUMBER
REMARK 290            MMM -> TRANSLATION VECTOR
REMARK 290
REMARK 290 CRYSTALLOGRAPHIC SYMMETRY TRANSFORMATIONS
REMARK 290 THE FOLLOWING TRANSFORMATIONS OPERATE ON THE ATOM/HETATM
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REMARK 290 RECORDS IN THIS ENTRY TO PRODUCE CRYSTALLOGRAPHICALLY
REMARK 290 RELATED MOLECULES.
REMARK 290   SMTRY1   1  1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY2   1  0.000000  1.000000  0.000000        0.00000
REMARK 290   SMTRY3   1  0.000000  0.000000  1.000000        0.00000
REMARK 290   SMTRY1   2 -1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY2   2  0.000000 -1.000000  0.000000        0.00000
REMARK 290   SMTRY3   2  0.000000  0.000000  1.000000       74.13000
REMARK 290   SMTRY1   3  0.000000 -1.000000  0.000000       43.12450
REMARK 290   SMTRY2   3  1.000000  0.000000  0.000000       43.12450
REMARK 290   SMTRY3   3  0.000000  0.000000  1.000000       37.06500
REMARK 290   SMTRY1   4  0.000000  1.000000  0.000000       43.12450
REMARK 290   SMTRY2   4 -1.000000  0.000000  0.000000       43.12450
REMARK 290   SMTRY3   4  0.000000  0.000000  1.000000      111.19500
REMARK 290   SMTRY1   5 -1.000000  0.000000  0.000000       43.12450
REMARK 290   SMTRY2   5  0.000000  1.000000  0.000000       43.12450
REMARK 290   SMTRY3   5  0.000000  0.000000 -1.000000       37.06500
REMARK 290   SMTRY1   6  1.000000  0.000000  0.000000       43.12450
REMARK 290   SMTRY2   6  0.000000 -1.000000  0.000000       43.12450
REMARK 290   SMTRY3   6  0.000000  0.000000 -1.000000      111.19500
REMARK 290   SMTRY1   7  0.000000  1.000000  0.000000        0.00000
REMARK 290   SMTRY2   7  1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY3   7  0.000000  0.000000 -1.000000        0.00000
REMARK 290   SMTRY1   8  0.000000 -1.000000  0.000000        0.00000
REMARK 290   SMTRY2   8 -1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY3   8  0.000000  0.000000 -1.000000       74.13000
REMARK 290
REMARK 290 REMARK: NULL
REMARK 300
REMARK 300 BIOMOLECULE: 1
REMARK 300 THIS ENTRY CONTAINS THE CRYSTALLOGRAPHIC ASYMMETRIC UNIT
REMARK 300 WHICH CONSISTS OF   2 CHAIN(S). SEE REMARK 350 FOR
REMARK 300 INFORMATION ON GENERATING THE BIOLOGICAL MOLECULE(S).
REMARK 300
REMARK 300 QUATERNARY STRUCTURE FOR THIS ENTRY: TETRAMERIC
REMARK 300
REMARK 300 THE PROTEIN IS A HOMODIMER FORMED BY CHAIN A.
REMARK 300 A HETERODIMERIC ASSOCIATION OF CHAIN A WITH CHAIN S
REMARK 300 PRODUCES A TETRAMER.
REMARK 300
REMARK 300 THE BURIED SURFACE AREA SHOWN BELOW IS AN AVERAGE
REMARK 300 CALCULATED FOR THE HETEROTETRAMER AND DOES NOT
REMARK 300 CORRESPOND TO THE BURIED SURFACE AREA FOR THE
REMARK 300 HOMODIMER OF CHAIN A
REMARK 300
REMARK 300 THE HETERO-ASSEMBLY DESCRIBED BY REMARK 350 APPEARS
REMARK 300 TO BE A CASE OF STRONG CRYSTAL PACKING WITH
REMARK 300 THE MEAN DIFFERENCE IN ACCESSIBLE SURFACE AREA PER
REMARK 300 CHAIN BETWEEN THE ISOLATED CHAIN AND THAT FOR
REMARK 300 THE CHAIN IN THE COMPLEX IS     2149.4 ANGSTROM**2
REMARK 350
REMARK 350 GENERATING THE BIOMOLECULE
REMARK 350 COORDINATES FOR A COMPLETE MULTIMER REPRESENTING THE KNOWN
REMARK 350 BIOLOGICALLY SIGNIFICANT OLIGOMERIZATION STATE OF THE
REMARK 350 MOLECULE CAN BE GENERATED BY APPLYING BIOMT TRANSFORMATIONS
REMARK 350 GIVEN BELOW.  BOTH NON-CRYSTALLOGRAPHIC AND
REMARK 350 CRYSTALLOGRAPHIC OPERATIONS ARE GIVEN.
REMARK 350
REMARK 350 BIOMOLECULE:  1
REMARK 350 APPLY THE FOLLOWING TO CHAINS: A, S
REMARK 350   BIOMT1   1  1.000000  0.000000  0.000000        0.00000
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REMARK 350    BIOMT2    1  0.000000  1.000000  0.000000        0.00000
REMARK 350    BIOMT3    1  0.000000  0.000000  1.000000        0.00000
REMARK 350    BIOMT1    2  0.000000 -1.000000  0.000000       86.24900
REMARK 350    BIOMT2    2 -1.000000  0.000000  0.000000       86.24900
REMARK 350    BIOMT3    2  0.000000  0.000000 -1.000000       74.13000
REMARK 465
REMARK 465 MISSING RESIDUES
REMARK 465 THE FOLLOWING RESIDUES WERE NOT LOCATED IN THE
REMARK 465 EXPERIMENT. (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 465 IDENTIFIER; SSSEQ=SEQUENCE NUMBER; I=INSERTION CODE.)
REMARK 465
REMARK 465   M RES C SSSEQI
REMARK 465     MET A     1
REMARK 465     ALA A     2
REMARK 465     ALA A     3
REMARK 465     THR A     4
REMARK 465     ALA A     5
REMARK 465     ALA A     6
REMARK 465     GLU A     7
REMARK 465     ALA A     8
REMARK 465     VAL A     9
REMARK 465     ALA A    10
REMARK 465     SER A    11
REMARK 465     GLY A    12
REMARK 465     SER A    13
REMARK 465     GLY A    14
REMARK 465     LYS A   304
REMARK 465     ARG A   305
REMARK 465     ILE A   306
REMARK 465     PRO S   775
REMARK 465     SER S   776
REMARK 465     ASP S   777
REMARK 465     LEU S   778
REMARK 465     ALA S   779
REMARK 465     CYS S   780
REMARK 465     ARG S   781
REMARK 465     LEU S   782
REMARK 465     LEU S   783
REMARK 465     GLY S   784
REMARK 465     GLN S   785
REMARK 465     SER S   786
REMARK 465     MET S   787
REMARK 465     ASP S   788
REMARK 465     GLU S   789
REMARK 465     SER S   790
REMARK 465     GLY S   791
REMARK 465     LEU S   792
REMARK 465     PRO S   793
REMARK 465     GLN S   794
REMARK 465     GLN S   807
REMARK 465     GLY S   808
REMARK 465     SER S   809
REMARK 465     ARG S   810
REMARK 465     ASN S   811
REMARK 465     LEU S   812
REMARK 465     ASP S   823
REMARK 465     GLN S   824
REMARK 465     VAL S   825
REMARK 465     ASN S   826
REMARK 470
REMARK 470 MISSING ATOM
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REMARK 470 THE FOLLOWING RESIDUES HAVE MISSING ATOMS (M=MODEL NUMBER;
REMARK 470 RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE NUMBER;
REMARK 470 I=INSERTION CODE):
REMARK 470   M RES CSSEQI  ATOMS
REMARK 470      GLU A  15    CG   CD   OE1  OE2
REMARK 470      GLU A  29    CG   CD   OE1  OE2
REMARK 470      ASN A  87    CG   OD1  ND2
REMARK 470      LYS A 106    CD   CE   NZ
REMARK 470      LYS A 115    CG   CD   CE   NZ
REMARK 470      ARG A 117    CG   CD   NE   CZ   NH1  NH2
REMARK 470      GLN A 133    CG   CD   OE1  NE2
REMARK 470      GLN A 136    CG   CD   OE1  NE2
REMARK 470      GLN A 137    CG   CD   OE1  NE2
REMARK 470      ARG A 156    CG   CD   NE   CZ   NH1  NH2
REMARK 470      LYS A 157    CD   CE   NZ
REMARK 470      LYS A 311    CG   CD   CE   NZ
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND ANGLES
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 500 IDENTIFIER; SSEQ=SEQUENCE NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,A3,1X,A1,I4,A1,3(1X,A4,2X),12X,F5.1)
REMARK 500
REMARK 500 EXPECTED VALUES: ENGH AND HUBER, 1991
REMARK 500
REMARK 500  M RES CSSEQI ATM1   ATM2   ATM3
REMARK 500    LEU A 227   CA  -  CB  -  CG  ANGL. DEV. = -11.0 DEGREES
REMARK 500
REMARK 500 REMARK: NULL
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND LENGTHS
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD AND BY MORE THAN 0.150 ANGSTROMS (M=MODEL
REMARK 500 NUMBER; RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE
REMARK 500 NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,A3,1X,A1,I4,A1,1X,2(A4,A1,3X),12X,F5.3)
REMARK 500
REMARK 500 EXPECTED VALUESS: ENGH AND HUBER, 1991
REMARK 500
REMARK 500  M RES CSSEQI ATM1   RES CSSEQI ATM2   DEVIATION
REMARK 500    MET A 343  SD     MET A 343  CE      -0.209
REMARK 500
REMARK 500 REMARK: NULL
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: CLOSE CONTACTS IN SAME ASYMMETRIC UNIT
REMARK 500
REMARK 500 THE FOLLOWING ATOMS ARE IN CLOSE CONTACT.
REMARK 500
REMARK 500  ATM1  RES C  SSEQI   ATM2  RES C  SSEQI          DISTANCE
REMARK 500
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REMARK 500   O    ALA A   300     OH   TYR S   798              2.09
REMARK 525
REMARK 525 SOLVENT
REMARK 525
REMARK 525 THE SOLVENT MOLECULES ARE GIVEN CHAIN IDENTIFIERS TO
REMARK 525 INDICATE THE PROTEIN CHAIN TO WHICH THEY ARE MOST CLOSELY
REMARK 525 ASSOCIATED WITH:
REMARK 525   PROTEIN CHAIN  SOLVENT CHAIN
REMARK 525     A              Z
REMARK 525     S              H
REMARK 600
REMARK 600 HETEROGEN
REMARK 600
REMARK 600 FOR METAL ATOM ZN    ZN A1350  THE COORDINATION ANGLES ARE:
REMARK 600  1 HIS   199A  NE2
REMARK 600  2 ASP   201A  OD2       103.4
REMARK 600  3 HIS   279A  NE2        84.2  88.5
REMARK 600  4 OGA  1351A  O2        169.0  87.2  99.0
REMARK 600  5 OGA  1351A  O2'        86.3 169.1  97.3  82.8
REMARK 600                            1     2     3     4
REMARK 600
REMARK 700
REMARK 700 SHEET
REMARK 700 THE SHEET STRUCTURE OF THIS MOLECULE IS BIFURCATED. IN
REMARK 700 ORDER TO REPRESENT THIS FEATURE IN THE SHEET RECORDS BELOW,
REMARK 700 TWO SHEETS ARE DEFINED.
REMARK 800
REMARK 800 SITE
REMARK 800 SITE_IDENTIFIER: ZNA
REMARK 800 SITE_DESCRIPTION: ZN BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: OGA
REMARK 800 SITE_DESCRIPTION: OGA BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: SA1
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: SA2
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 900
REMARK 900 RELATED ENTRIES
REMARK 900 RELATED ID: 1D7G   RELATED DB: PDB
REMARK 900  A MODEL FOR THE COMPLEX BETWEEN THE
REMARK 900  HYPOXIA-INDUCIBLE FACTOR-1 (HIF-1) AND ITS
REMARK 900   CONSENSUS DEOXYRIBONUCLEIC ACID SEQUENCE
REMARK 900 RELATED ID: 1H2K   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1H2L   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1H2N   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1L8C   RELATED DB: PDB
REMARK 900  STRUCTURAL BASIS FOR HIF-1ALPHA/CBP
REMARK 900  RECOGNITION IN THECELLULAR HYPOXIC RESPONSE
REMARK 900 RELATED ID: 1LM8   RELATED DB: PDB
REMARK 900  STRUCTURE OF A HIF-1A-PVHL-ELONGINB-
REMARK 900  ELONGINC COMPLEX
REMARK 900 RELATED ID: 1LQB   RELATED DB: PDB
REMARK 900  CRYSTAL STRUCTURE OF A HYDROXYLATED HIF-1
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REMARK 900  ALPHA PEPTIDEBOUND TO THE PVHL/ELONGIN-C/
REMARK 900  ELONGIN-B COMPLEX
DBREF  1H2M A    1   349  SWS    Q969Q7   Q969Q7              1    349
DBREF  1H2M S  775   826  SWS    Q16665   HIFA_HUMAN        775    826
SEQRES   1 A  349  MET ALA ALA THR ALA ALA GLU ALA VAL ALA SER GLY SER
SEQRES   2 A  349  GLY GLU PRO ARG GLU GLU ALA GLY ALA LEU GLY PRO ALA
SEQRES   3 A  349  TRP ASP GLU SER GLN LEU ARG SER TYR SER PHE PRO THR
SEQRES   4 A  349  ARG PRO ILE PRO ARG LEU SER GLN SER ASP PRO ARG ALA
SEQRES   5 A  349  GLU GLU LEU ILE GLU ASN GLU GLU PRO VAL VAL LEU THR
SEQRES   6 A  349  ASP THR ASN LEU VAL TYR PRO ALA LEU LYS TRP ASP LEU
SEQRES   7 A  349  GLU TYR LEU GLN GLU ASN ILE GLY ASN GLY ASP PHE SER
SEQRES   8 A  349  VAL TYR SER ALA SER THR HIS LYS PHE LEU TYR TYR ASP
SEQRES   9 A  349  GLU LYS LYS MET ALA ASN PHE GLN ASN PHE LYS PRO ARG
SEQRES  10 A  349  SER ASN ARG GLU GLU MET LYS PHE HIS GLU PHE VAL GLU
SEQRES  11 A  349  LYS LEU GLN ASP ILE GLN GLN ARG GLY GLY GLU GLU ARG
SEQRES  12 A  349  LEU TYR LEU GLN GLN THR LEU ASN ASP THR VAL GLY ARG
SEQRES  13 A  349  LYS ILE VAL MET ASP PHE LEU GLY PHE ASN TRP ASN TRP
SEQRES  14 A  349  ILE ASN LYS GLN GLN GLY LYS ARG GLY TRP GLY GLN LEU
SEQRES  15 A  349  THR SER ASN LEU LEU LEU ILE GLY MET GLU GLY ASN VAL
SEQRES  16 A  349  THR PRO ALA HIS TYR ASP GLU GLN GLN ASN PHE PHE ALA
SEQRES  17 A  349  GLN ILE LYS GLY TYR LYS ARG CYS ILE LEU PHE PRO PRO
SEQRES  18 A  349  ASP GLN PHE GLU CYS LEU TYR PRO TYR PRO VAL HIS HIS
SEQRES  19 A  349  PRO CYS ASP ARG GLN SER GLN VAL ASP PHE ASP ASN PRO
SEQRES  20 A  349  ASP TYR GLU ARG PHE PRO ASN PHE GLN ASN VAL VAL GLY
SEQRES  21 A  349  TYR GLU THR VAL VAL GLY PRO GLY ASP VAL LEU TYR ILE
SEQRES  22 A  349  PRO MET TYR TRP TRP HIS HIS ILE GLU SER LEU LEU ASN
SEQRES  23 A  349  GLY GLY ILE THR ILE THR VAL ASN PHE TRP TYR LYS GLY
SEQRES  24 A  349  ALA PRO THR PRO LYS ARG ILE GLU TYR PRO LEU LYS ALA
SEQRES  25 A  349  HIS GLN LYS VAL ALA ILE MET ARG ASN ILE GLU LYS MET
SEQRES  26 A  349  LEU GLY GLU ALA LEU GLY ASN PRO GLN GLU VAL GLY PRO
SEQRES  27 A  349  LEU LEU ASN THR MET ILE LYS GLY ARG TYR ASN
SEQRES   1 S   52  PRO SER ASP LEU ALA CYS ARG LEU LEU GLY GLN SER MET
SEQRES   2 S   52  ASP GLU SER GLY LEU PRO GLN LEU THR SER TYR ASP CYS
SEQRES   3 S   52  GLU VAL ASN ALA PRO ILE GLN GLY SER ARG ASN LEU LEU
SEQRES   4 S   52  GLN GLY GLU GLU LEU LEU ARG ALA LEU ASP GLN VAL ASN
HET     ZN  A1350       1
HET    OGA  A1351      10
HET    SO4  A1352       5
HET    SO4  A1353       5
HETNAM      ZN ZINC ION
HETNAM     OGA N-OXALYOLGLYCINE
HETNAM     SO4 SULFATE ION
FORMUL   3   ZN     ZN1 2+
FORMUL   4  OGA     C4 H5 N1 O5
FORMUL   5  SO4     2(O4 S1 2-)
FORMUL   6  HOH   *99(H2 O1)
HELIX    1   1 ASP A   28  LEU A   32  5                                   5
HELIX    2   2 ASP A   49  ASN A   58  1                                  10
HELIX    3   3 VAL A   70  TRP A   76  5                                   7
HELIX    4   4 ASP A   77  ILE A   85  1                                   9
HELIX    5   5 ASP A  104  GLN A  112  5                                   9
HELIX    6   6 LYS A  124  ARG A  138  1                                  15
HELIX    7   7 GLY A  155  GLY A  164  1                                  10
HELIX    8   8 ASN A  166  ARG A  177  1                                  12
HELIX    9   9 PRO A  220  ASP A  222  5                                   3
HELIX   10  10 GLN A  223  TYR A  228  1                                   6
HELIX   11  11 PHE A  252  VAL A  258  5                                   7
HELIX   12  12 LYS A  311  GLY A  331  1                                  21
HELIX   13  13 ASN A  332  GLN A  334  5                                   3
HELIX   14  14 GLU A  335  LYS A  345  1                                  11
HELIX   15  15 GLN S  814  LEU S  822  1                                   9
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SHEET    1  AA 5 THR A  39  PRO A  41  0
SHEET    2  AA 5 GLY A 260  VAL A 265  1  O  GLY A 260   N  ARG A  40
SHEET    3  AA 5 LYS A 214  PHE A 219 -1  O  LYS A 214   N  VAL A 265
SHEET    4  AA 5 TRP A 278  SER A 283 -1  O  TRP A 278   N  PHE A 219
SHEET    5  AA 5 VAL A 195  HIS A 199 -1  O  THR A 196   N  ILE A 281
SHEET    1  AB 6 ARG A  44  LEU A  45  0
SHEET    2  AB 6 VAL A  62  LEU A  64  1  O  VAL A  63   N  LEU A  45
SHEET    3  AB 6 VAL A 270  ILE A 273 -1  O  VAL A 270   N  LEU A  64
SHEET    4  AB 6 GLN A 203  LYS A 211 -1  O  ASN A 205   N  ILE A 273
SHEET    5  AB 6 THR A 290  LYS A 298 -1  O  ILE A 291   N  ILE A 210
SHEET    6  AB 6 LEU A 182  SER A 184 -1  N  THR A 183   O  TRP A 296
SHEET    1  AC 9 ARG A  44  LEU A  45  0
SHEET    2  AC 9 VAL A  62  LEU A  64  1  O  VAL A  63   N  LEU A  45
SHEET    3  AC 9 VAL A 270  ILE A 273 -1  O  VAL A 270   N  LEU A  64
SHEET    4  AC 9 GLN A 203  LYS A 211 -1  O  ASN A 205   N  ILE A 273
SHEET    5  AC 9 THR A 290  LYS A 298 -1  O  ILE A 291   N  ILE A 210
SHEET    6  AC 9 LEU A 186  GLY A 190 -1  O  LEU A 186   N  ASN A 294
SHEET    7  AC 9 ARG A 143  THR A 149 -1  O  LEU A 146   N  ILE A 189
SHEET    8  AC 9 PHE A  90  ALA A  95 -1  O  SER A  91   N  GLN A 147
SHEET    9  AC 9 SER A 118  MET A 123 -1  O  ASN A 119   N  SER A  94
LINK         ZN    ZN A1350                 NE2 HIS A 199     1555   1555
LINK         ZN    ZN A1350                 OD2 ASP A 201     1555   1555
LINK         ZN    ZN A1350                 NE2 HIS A 279     1555   1555
LINK         ZN    ZN A1350                 O2  OGA A1351     1555   1555
LINK         ZN    ZN A1350                 O2' OGA A1351     1555   1555
CISPEP   1 TYR A  308    PRO A  309          0         1.05
SITE     1 ZNA  3 HIS A 199  ASP A 201  HIS A 279
SITE     1 OGA 13 TYR A 145  LEU A 188  THR A 196  HIS A 199
SITE     2 OGA 13 ASP A 201  ASN A 205  PHE A 207  LYS A 214
SITE     3 OGA 13 HIS A 279  ILE A 281  ASN A 294  TRP A 296
SITE     4 OGA 13 HOH Z  47
SITE     1 SA1  4 ARG A 138  GLY A 140  GLU A 141  GLU A 142
SITE     1 SA2  5 ARG A 143  GLU A 192  GLY A 193  LEU A 285
SITE     2 SA2  5 ASN A 286
CRYST1   86.249   86.249  148.260  90.00  90.00  90.00 P 41 21 2      8
ORIGX1      1.000000  0.000000  0.000000        0.00000
ORIGX2      0.000000  1.000000  0.000000        0.00000
ORIGX3      0.000000  0.000000  1.000000        0.00000
SCALE1      0.011594  0.000000  0.000000        0.00000
SCALE2      0.000000  0.011594  0.000000        0.00000
SCALE3      0.000000  0.000000  0.006745        0.00000
ATOM      1  N   GLU A  15       8.462  32.732   9.880  1.00 78.57           N
ATOM      2  CA  GLU A  15       7.114  32.108   9.773  1.00 78.75           C
ATOM      3  C   GLU A  15       7.207  30.654  10.192  1.00 78.42           C
ATOM      4  O   GLU A  15       8.067  29.928   9.714  1.00 78.63           O
ATOM      5  CB  GLU A  15       6.580  32.219   8.345  1.00 78.95           C
ATOM      6  N   PRO A  16       6.316  30.214  11.067  1.00 78.20           N
ATOM      7  CA  PRO A  16       6.376  28.840  11.584  1.00 77.89           C
ATOM      8  C   PRO A  16       6.328  27.796  10.467  1.00 77.35           C
ATOM      9  O   PRO A  16       5.541  27.888   9.527  1.00 76.95           O
ATOM     10  CB  PRO A  16       5.146  28.746  12.493  1.00 78.00           C
ATOM     11  CG  PRO A  16       4.763  30.167  12.790  1.00 78.28           C
ATOM     12  CD  PRO A  16       5.173  30.969  11.605  1.00 78.24           C
ATOM     13  N   ARG A  17       7.184  26.796  10.580  1.00 76.88           N
ATOM     14  CA  ARG A  17       7.264  25.749   9.575  1.00 76.63           C
ATOM     15  C   ARG A  17       6.005  24.891   9.539  1.00 75.45           C
ATOM     16  O   ARG A  17       5.247  24.836  10.505  1.00 75.40           O
ATOM     17  CB  ARG A  17       8.444  24.820   9.875  1.00 77.06           C
ATOM     18  CG  ARG A  17       9.816  25.481   9.900  1.00 78.68           C
ATOM     19  CD  ARG A  17      10.954  24.522  10.293  1.00 80.53           C
ATOM     20  NE  ARG A  17      10.908  24.086  11.699  1.00 82.60           N
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ATOM     21  CZ  ARG A  17      11.401  24.776  12.744  1.00 84.27           C
ATOM     22  NH1 ARG A  17      11.980  25.968  12.584  1.00 83.33           N
ATOM     23  NH2 ARG A  17      11.311  24.268  13.967  1.00 85.10           N
ATOM     24  N   GLU A  18       5.796  24.209   8.421  1.00 74.01           N
ATOM     25  CA  GLU A  18       4.692  23.274   8.319  1.00 72.99           C
ATOM     26  C   GLU A  18       5.193  21.855   8.607  1.00 71.43           C
ATOM     27  O   GLU A  18       6.210  21.421   8.061  1.00 70.71           O
ATOM     28  CB  GLU A  18       4.033  23.352   6.938  1.00 73.29           C
ATOM     29  CG  GLU A  18       3.333  24.677   6.659  1.00 73.91           C
ATOM     30  CD  GLU A  18       1.949  24.794   7.283  1.00 74.30           C
ATOM     31  OE1 GLU A  18       1.355  23.776   7.692  1.00 74.07           O
ATOM     32  OE2 GLU A  18       1.444  25.929   7.356  1.00 75.76           O
ATOM     33  N   GLU A  19       4.482  21.157   9.491  1.00 69.89           N
ATOM     34  CA  GLU A  19       4.786  19.764   9.818  1.00 68.89           C
ATOM     35  C   GLU A  19       4.393  18.854   8.661  1.00 66.65           C
ATOM     36  O   GLU A  19       3.324  19.011   8.065  1.00 65.92           O
ATOM     37  CB  GLU A  19       4.058  19.311  11.096  1.00 69.41           C
ATOM     38  CG  GLU A  19       4.544  19.996  12.370  1.00 72.06           C
ATOM     39  CD  GLU A  19       4.308  19.194  13.657  1.00 76.41           C
ATOM     40  OE1 GLU A  19       3.855  18.016  13.609  1.00 78.21           O
ATOM     41  OE2 GLU A  19       4.590  19.758  14.746  1.00 79.64           O
ATOM     42  N   ALA A  20       5.283  17.919   8.349  1.00 64.54           N
ATOM     43  CA  ALA A  20       5.067  16.921   7.303  1.00 63.03           C
ATOM     44  C   ALA A  20       3.735  16.225   7.449  1.00 61.23           C
ATOM     45  O   ALA A  20       3.303  15.903   8.556  1.00 60.61           O
ATOM     46  CB  ALA A  20       6.177  15.889   7.312  1.00 62.82           C
ATOM     47  N   GLY A  21       3.087  16.002   6.316  1.00 59.29           N
ATOM     48  CA  GLY A  21       1.833  15.289   6.304  1.00 58.26           C
ATOM     49  C   GLY A  21       0.651  16.200   6.530  1.00 57.44           C
ATOM     50  O   GLY A  21      -0.416  15.739   6.873  1.00 56.42           O
ATOM     51  N   ALA A  22       0.858  17.500   6.341  1.00 57.28           N
ATOM     52  CA  ALA A  22      -0.182  18.509   6.492  1.00 56.92           C
ATOM     53  C   ALA A  22      -0.737  18.544   7.909  1.00 56.53           C
ATOM     54  O   ALA A  22      -1.926  18.737   8.108  1.00 56.32           O
ATOM     55  CB  ALA A  22      -1.285  18.277   5.488  1.00 57.10           C
ATOM     56  N   LEU A  23       0.133  18.369   8.898  1.00 56.25           N
ATOM     57  CA  LEU A  23      -0.306  18.397  10.289  1.00 56.07           C
ATOM     58  C   LEU A  23      -0.385  19.811  10.827  1.00 55.03           C
ATOM     59  O   LEU A  23      -0.638  20.037  11.998  1.00 54.89           O
ATOM     60  CB  LEU A  23       0.583  17.519  11.149  1.00 56.05           C
ATOM     61  CG  LEU A  23       0.445  16.067  10.678  1.00 58.06           C
ATOM     62  CD1 LEU A  23       1.307  15.080  11.478  1.00 59.22           C
ATOM     63  CD2 LEU A  23      -1.030  15.653  10.735  1.00 59.53           C
ATOM     64  N   GLY A  24      -0.202  20.768   9.941  1.00 54.17           N
ATOM     65  CA  GLY A  24      -0.337  22.151  10.305  1.00 53.43           C
ATOM     66  C   GLY A  24       0.932  22.758  10.834  1.00 52.71           C
ATOM     67  O   GLY A  24       2.025  22.189  10.807  1.00 52.28           O
ATOM     68  N   PRO A  25       0.775  23.965  11.324  1.00 51.60           N
ATOM     69  CA  PRO A  25       1.908  24.695  11.858  1.00 50.67           C
ATOM     70  C   PRO A  25       2.310  24.047  13.168  1.00 49.52           C
ATOM     71  O   PRO A  25       1.481  23.648  13.982  1.00 47.61           O
ATOM     72  CB  PRO A  25       1.366  26.110  12.065  1.00 50.61           C
ATOM     73  CG  PRO A  25      -0.109  26.034  11.931  1.00 50.61           C
ATOM     74  CD  PRO A  25      -0.493  24.689  11.463  1.00 51.58           C
ATOM     75  N   ALA A  26       3.616  23.922  13.321  1.00 49.47           N
ATOM     76  CA  ALA A  26       4.218  23.390  14.526  1.00 49.29           C
ATOM     77  C   ALA A  26       3.894  24.266  15.759  1.00 47.94           C
ATOM     78  O   ALA A  26       3.646  23.735  16.836  1.00 48.27           O
ATOM     79  CB  ALA A  26       5.712  23.288  14.328  1.00 49.68           C
ATOM     80  N   TRP A  27       3.864  25.581  15.592  1.00 45.91           N
ATOM     81  CA  TRP A  27       3.494  26.487  16.683  1.00 45.16           C
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ATOM     82  C   TRP A  27       3.003  27.818  16.107  1.00 44.47           C
ATOM     83  O   TRP A  27       2.985  27.981  14.901  1.00 44.30           O
ATOM     84  CB  TRP A  27       4.719  26.727  17.568  1.00 44.91           C
ATOM     85  CG  TRP A  27       5.916  26.910  16.737  1.00 42.67           C
ATOM     86  CD1 TRP A  27       6.702  25.934  16.197  1.00 43.38           C
ATOM     87  CD2 TRP A  27       6.411  28.129  16.255  1.00 38.70           C
ATOM     88  NE1 TRP A  27       7.690  26.494  15.425  1.00 41.56           N
ATOM     89  CE2 TRP A  27       7.532  27.847  15.452  1.00 39.59           C
ATOM     90  CE3 TRP A  27       6.039  29.442  16.431  1.00 38.28           C
ATOM     91  CZ2 TRP A  27       8.284  28.827  14.861  1.00 39.74           C
ATOM     92  CZ3 TRP A  27       6.781  30.409  15.849  1.00 39.48           C
ATOM     93  CH2 TRP A  27       7.884  30.104  15.057  1.00 40.17           C
ATOM     94  N   ASP A  28       2.580  28.760  16.941  1.00 43.91           N
ATOM     95  CA  ASP A  28       2.230  30.079  16.417  1.00 43.87           C
ATOM     96  C   ASP A  28       2.750  31.161  17.305  1.00 42.33           C
ATOM     97  O   ASP A  28       3.191  30.901  18.409  1.00 42.11           O
ATOM     98  CB  ASP A  28       0.722  30.251  16.199  1.00 44.82           C
ATOM     99  CG  ASP A  28      -0.052  30.162  17.462  1.00 47.87           C
ATOM    100  OD1 ASP A  28      -0.240  31.236  18.108  1.00 50.91           O
ATOM    101  OD2 ASP A  28      -0.501  29.054  17.877  1.00 49.06           O
ATOM    102  N   GLU A  29       2.713  32.385  16.790  1.00 41.29           N
ATOM    103  CA  GLU A  29       3.208  33.586  17.499  1.00 39.69           C
ATOM    104  C   GLU A  29       2.685  33.711  18.917  1.00 37.94           C
ATOM    105  O   GLU A  29       3.415  34.069  19.801  1.00 37.26           O
ATOM    106  CB  GLU A  29       2.840  34.812  16.735  1.00 39.59           C
ATOM    107  N   SER A  30       1.427  33.371  19.135  1.00 36.78           N
ATOM    108  CA  SER A  30       0.810  33.558  20.443  1.00 36.13           C
ATOM    109  C   SER A  30       1.501  32.756  21.517  1.00 35.30           C
ATOM    110  O   SER A  30       1.252  32.968  22.678  1.00 35.21           O
ATOM    111  CB  SER A  30      -0.686  33.180  20.406  1.00 35.84           C
ATOM    112  OG  SER A  30      -0.901  31.762  20.450  1.00 36.93           O
ATOM    113  N   GLN A  31       2.326  31.795  21.116  1.00 35.24           N
ATOM    114  CA  GLN A  31       3.021  30.918  22.060  1.00 34.89           C
ATOM    115  C   GLN A  31       4.366  31.506  22.487  1.00 34.60           C
ATOM    116  O   GLN A  31       5.010  30.969  23.365  1.00 34.18           O
ATOM    117  CB  GLN A  31       3.224  29.513  21.473  1.00 34.65           C
ATOM    118  CG  GLN A  31       1.969  28.649  21.402  1.00 34.74           C
ATOM    119  CD  GLN A  31       2.212  27.322  20.707  1.00 33.47           C
ATOM    120  OE1 GLN A  31       2.215  27.249  19.476  1.00 32.57           O
ATOM    121  NE2 GLN A  31       2.442  26.278  21.492  1.00 32.95           N
ATOM    122  N   LEU A  32       4.753  32.632  21.895  1.00 34.85           N
ATOM    123  CA  LEU A  32       6.016  33.293  22.212  1.00 35.01           C
ATOM    124  C   LEU A  32       5.798  34.391  23.223  1.00 34.91           C
ATOM    125  O   LEU A  32       4.834  35.134  23.125  1.00 35.83           O
ATOM    126  CB  LEU A  32       6.631  33.885  20.945  1.00 34.96           C
ATOM    127  CG  LEU A  32       6.995  32.860  19.849  1.00 36.03           C
ATOM    128  CD1 LEU A  32       7.691  33.525  18.701  1.00 36.15           C
ATOM    129  CD2 LEU A  32       7.855  31.780  20.377  1.00 35.18           C
ATOM    130  N   ARG A  33       6.675  34.500  24.209  1.00 34.49           N
ATOM    131  CA  ARG A  33       6.564  35.591  25.170  1.00 34.33           C
ATOM    132  C   ARG A  33       7.005  36.867  24.460  1.00 34.37           C
ATOM    133  O   ARG A  33       7.733  36.815  23.498  1.00 34.87           O
ATOM    134  CB  ARG A  33       7.442  35.338  26.394  1.00 34.16           C
ATOM    135  CG  ARG A  33       7.056  34.124  27.212  1.00 32.83           C
ATOM    136  CD  ARG A  33       7.951  33.894  28.428  1.00 33.34           C
ATOM    137  NE  ARG A  33       7.413  32.820  29.252  1.00 34.91           N
ATOM    138  CZ  ARG A  33       6.445  32.963  30.137  1.00 36.53           C
ATOM    139  NH1 ARG A  33       5.900  34.144  30.382  1.00 34.89           N
ATOM    140  NH2 ARG A  33       6.027  31.905  30.795  1.00 39.39           N
ATOM    141  N   SER A  34       6.608  38.022  24.947  1.00 34.36           N
ATOM    142  CA  SER A  34       6.944  39.247  24.244  1.00 34.69           C
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ATOM    143  C   SER A  34       8.002  40.055  24.987  1.00 33.26           C
ATOM    144  O   SER A  34       7.958  40.142  26.200  1.00 33.50           O
ATOM    145  CB  SER A  34       5.698  40.096  24.143  1.00 35.23           C
ATOM    146  OG  SER A  34       5.586  40.744  25.393  1.00 39.99           O
ATOM    147  N   TYR A  35       8.911  40.682  24.252  1.00 32.38           N
ATOM    148  CA  TYR A  35      10.080  41.329  24.843  1.00 32.03           C
ATOM    149  C   TYR A  35      10.339  42.675  24.193  1.00 32.52           C
ATOM    150  O   TYR A  35       9.763  42.979  23.172  1.00 32.78           O
ATOM    151  CB  TYR A  35      11.290  40.422  24.686  1.00 31.20           C
ATOM    152  CG  TYR A  35      11.139  39.161  25.482  1.00 30.69           C
ATOM    153  CD1 TYR A  35      10.935  39.215  26.853  1.00 30.40           C
ATOM    154  CD2 TYR A  35      11.186  37.915  24.875  1.00 30.34           C
ATOM    155  CE1 TYR A  35      10.804  38.054  27.609  1.00 31.74           C
ATOM    156  CE2 TYR A  35      11.050  36.741  25.617  1.00 32.05           C
ATOM    157  CZ  TYR A  35      10.858  36.812  26.991  1.00 31.98           C
ATOM    158  OH  TYR A  35      10.687  35.658  27.742  1.00 30.13           O
ATOM    159  N   SER A  36      11.240  43.463  24.761  1.00 33.06           N
ATOM    160  CA  SER A  36      11.469  44.838  24.289  1.00 32.95           C
ATOM    161  C   SER A  36      12.469  44.977  23.159  1.00 32.65           C
ATOM    162  O   SER A  36      12.705  46.084  22.674  1.00 33.04           O
ATOM    163  CB  SER A  36      11.979  45.698  25.438  1.00 32.92           C
ATOM    164  OG  SER A  36      13.272  45.325  25.844  1.00 33.05           O
ATOM    165  N   PHE A  37      13.041  43.880  22.711  1.00 31.44           N
ATOM    166  CA  PHE A  37      14.100  43.988  21.740  1.00 31.55           C
ATOM    167  C   PHE A  37      13.784  43.269  20.444  1.00 31.69           C
ATOM    168  O   PHE A  37      13.020  42.326  20.386  1.00 32.65           O
ATOM    169  CB  PHE A  37      15.421  43.431  22.339  1.00 30.68           C
ATOM    170  CG  PHE A  37      15.275  42.054  22.890  1.00 30.10           C
ATOM    171  CD1 PHE A  37      15.329  40.967  22.060  1.00 28.43           C
ATOM    172  CD2 PHE A  37      15.022  41.852  24.231  1.00 29.43           C
ATOM    173  CE1 PHE A  37      15.168  39.679  22.564  1.00 31.59           C
ATOM    174  CE2 PHE A  37      14.852  40.580  24.733  1.00 30.52           C
ATOM    175  CZ  PHE A  37      14.927  39.495  23.915  1.00 31.81           C
ATOM    176  N   PRO A  38      14.403  43.721  19.384  1.00 31.70           N
ATOM    177  CA  PRO A  38      14.268  43.036  18.106  1.00 31.23           C
ATOM    178  C   PRO A  38      15.231  41.895  17.984  1.00 31.71           C
ATOM    179  O   PRO A  38      16.205  41.880  18.743  1.00 31.59           O
ATOM    180  CB  PRO A  38      14.652  44.118  17.117  1.00 31.44           C
ATOM    181  CG  PRO A  38      15.636  45.005  17.922  1.00 32.43           C
ATOM    182  CD  PRO A  38      15.186  44.973  19.320  1.00 30.26           C
ATOM    183  N   THR A  39      14.996  41.008  17.003  1.00 31.90           N
ATOM    184  CA  THR A  39      15.868  39.891  16.702  1.00 32.00           C
ATOM    185  C   THR A  39      15.865  39.606  15.203  1.00 32.89           C
ATOM    186  O   THR A  39      14.998  40.048  14.476  1.00 32.28           O
ATOM    187  CB  THR A  39      15.370  38.647  17.377  1.00 32.26           C
ATOM    188  OG1 THR A  39      14.024  38.389  16.949  1.00 30.59           O
ATOM    189  CG2 THR A  39      15.235  38.832  18.905  1.00 32.99           C
ATOM    190  N   ARG A  40      16.855  38.844  14.770  1.00 33.28           N
ATOM    191  CA  ARG A  40      16.980  38.372  13.421  1.00 34.30           C
ATOM    192  C   ARG A  40      17.023  36.853  13.562  1.00 33.77           C
ATOM    193  O   ARG A  40      17.288  36.324  14.614  1.00 34.68           O
ATOM    194  CB  ARG A  40      18.267  38.847  12.795  1.00 34.73           C
ATOM    195  CG  ARG A  40      18.273  40.306  12.451  1.00 41.24           C
ATOM    196  CD  ARG A  40      16.909  40.799  12.022  1.00 48.38           C
ATOM    197  NE  ARG A  40      16.728  41.025  10.597  1.00 51.83           N
ATOM    198  CZ  ARG A  40      15.553  41.291  10.092  1.00 56.70           C
ATOM    199  NH1 ARG A  40      14.501  41.300  10.908  1.00 57.84           N
ATOM    200  NH2 ARG A  40      15.415  41.549   8.795  1.00 60.30           N
ATOM    201  N   PRO A  41      16.663  36.147  12.533  1.00 33.50           N
ATOM    202  CA  PRO A  41      16.646  34.681  12.569  1.00 33.48           C
ATOM    203  C   PRO A  41      18.002  34.010  12.475  1.00 32.72           C
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ATOM	204	O	PRO	A	41	18.907	34.475	11.801	1.00	34.64	O
ATOM	205	CB	PRO	A	41	15.800	34.299	11.340	1.00	33.22	C
ATOM	206	CG	PRO	A	41	15.409	35.563	10.675	1.00	33.55	C
ATOM	207	CD	PRO	A	41	16.038	36.717	11.343	1.00	32.95	C
ATOM	208	N	ILE	A	42	18.154	32.925	13.192	1.00	30.97	N
ATOM	209	CA	ILE	A	42	19.337	32.144	13.049	1.00	29.87	C
ATOM	210	C	ILE	A	42	19.077	31.289	11.814	1.00	30.07	C
ATOM	211	O	ILE	A	42	17.946	30.857	11.587	1.00	30.17	O
ATOM	212	CB	ILE	A	42	19.477	31.306	14.273	1.00	29.85	C
ATOM	213	CG1	ILE	A	42	19.721	32.215	15.478	1.00	27.79	C
ATOM	214	CG2	ILE	A	42	20.582	30.264	14.105	1.00	30.60	C
ATOM	215	CD1	ILE	A	42	19.565	31.503	16.788	1.00	25.35	C
ATOM	216	N	PRO	A	43	20.085	31.075	10.985	1.00	29.34	N
ATOM	217	CA	PRO	A	43	19.922	30.219	9.823	1.00	29.60	C
ATOM	218	C	PRO	A	43	19.623	28.751	10.176	1.00	30.65	C
ATOM	219	O	PRO	A	43	20.207	28.265	11.160	1.00	31.73	O
ATOM	220	CB	PRO	A	43	21.288	30.310	9.139	1.00	30.00	C
ATOM	221	CG	PRO	A	43	21.933	31.491	9.665	1.00	28.87	C
ATOM	222	CD	PRO	A	43	21.420	31.676	11.047	1.00	28.76	C
ATOM	223	N	ARG	A	44	18.725	28.103	9.419	1.00	30.34	N
ATOM	224	CA	ARG	A	44	18.415	26.693	9.507	1.00	31.59	C
ATOM	225	C	ARG	A	44	18.965	26.050	8.267	1.00	31.44	C
ATOM	226	O	ARG	A	44	18.540	26.359	7.169	1.00	32.24	O
ATOM	227	CB	ARG	A	44	16.923	26.399	9.502	1.00	32.07	C
ATOM	228	CG	ARG	A	44	16.105	27.115	10.563	1.00	36.61	C
ATOM	229	CD	ARG	A	44	14.638	26.534	10.809	1.00	39.09	C
ATOM	230	NE	ARG	A	44	14.350	25.140	10.395	1.00	41.98	N
ATOM	231	CZ	ARG	A	44	14.179	24.099	11.246	1.00	43.25	C
ATOM	232	NH1	ARG	A	44	14.332	24.244	12.561	1.00	40.76	N
ATOM	233	NH2	ARG	A	44	13.864	22.892	10.777	1.00	44.70	N
ATOM	234	N	LEU	A	45	19.878	25.118	8.428	1.00	31.29	N
ATOM	235	CA	LEU	A	45	20.544	24.560	7.294	1.00	30.82	C
ATOM	236	C	LEU	A	45	20.744	23.083	7.470	1.00	31.52	C
ATOM	237	O	LEU	A	45	20.690	22.550	8.597	1.00	31.99	O
ATOM	238	CB	LEU	A	45	21.909	25.221	7.134	1.00	29.63	C
ATOM	239	CG	LEU	A	45	21.873	26.697	6.813	1.00	31.00	C
ATOM	240	CD1	LEU	A	45	23.279	27.338	7.030	1.00	31.79	C
ATOM	241	CD2	LEU	A	45	21.403	26.918	5.378	1.00	31.14	C
ATOM	242	N	SER	A	46	21.004	22.437	6.338	1.00	31.72	N
ATOM	243	CA	SER	A	46	21.345	21.057	6.327	1.00	32.17	C
ATOM	244	C	SER	A	46	22.771	20.978	6.767	1.00	32.55	C
ATOM	245	O	SER	A	46	23.568	21.871	6.562	1.00	31.31	O
ATOM	246	CB	SER	A	46	21.255	20.447	4.936	1.00	32.06	C
ATOM	247	OG	SER	A	46	21.909	19.187	4.931	1.00	31.15	O
ATOM	248	N	GLN	A	47	23.068	19.849	7.358	1.00	33.60	N
ATOM	249	CA	GLN	A	47	24.370	19.546	7.878	1.00	34.42	C
ATOM	250	C	GLN	A	47	25.385	19.453	6.754	1.00	34.74	C
ATOM	251	O	GLN	A	47	26.554	19.685	6.971	1.00	35.40	O
ATOM	252	CB	GLN	A	47	24.232	18.194	8.593	1.00	35.09	C
ATOM	253	CG	GLN	A	47	25.465	17.417	8.733	1.00	36.19	C
ATOM	254	CD	GLN	A	47	25.670	16.422	7.678	1.00	36.93	C
ATOM	255	OE1	GLN	A	47	24.757	16.093	6.902	1.00	38.75	O
ATOM	256	NE2	GLN	A	47	26.894	15.903	7.630	1.00	40.53	N
ATOM	257	N	SER	A	48	24.933	19.095	5.556	1.00	34.63	N
ATOM	258	CA	SER	A	48	25.821	18.922	4.415	1.00	34.93	C
ATOM	259	C	SER	A	48	26.128	20.249	3.735	1.00	35.90	C
ATOM	260	O	SER	A	48	26.990	20.315	2.862	1.00	36.31	O
ATOM	261	CB	SER	A	48	25.182	17.991	3.381	1.00	34.59	C
ATOM	262	OG	SER	A	48	23.912	18.483	2.955	1.00	33.48	O
ATOM	263	N	ASP	A	49	25.415	21.302	4.124	1.00	36.41	N
ATOM	264	CA	ASP	A	49	25.583	22.606	3.512	1.00	37.09	C

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ATOM    265  C   ASP A  49      26.855  23.291   3.989  1.00 37.81           C
ATOM    266  O   ASP A  49      27.020  23.523   5.182  1.00 36.99           O
ATOM    267  CB  ASP A  49      24.383  23.451   3.877  1.00 37.42           C
ATOM    268  CG  ASP A  49      24.323  24.733   3.117  1.00 38.29           C
ATOM    269  OD1 ASP A  49      25.383  25.351   2.849  1.00 37.80           O
ATOM    270  OD2 ASP A  49      23.223  25.191   2.760  1.00 40.61           O
ATOM    271  N   PRO A  50      27.740  23.649   3.056  1.00 38.39           N
ATOM    272  CA  PRO A  50      29.005  24.291   3.409  1.00 38.24           C
ATOM    273  C   PRO A  50      28.802  25.502   4.285  1.00 38.16           C
ATOM    274  O   PRO A  50      29.671  25.797   5.088  1.00 37.37           O
ATOM    275  CB  PRO A  50      29.577  24.738   2.051  1.00 38.14           C
ATOM    276  CG  PRO A  50      28.978  23.915   1.070  1.00 38.31           C
ATOM    277  CD  PRO A  50      27.620  23.473   1.601  1.00 38.85           C
ATOM    278  N   ARG A  51      27.686  26.199   4.125  1.00 38.66           N
ATOM    279  CA  ARG A  51      27.448  27.403   4.912  1.00 39.05           C
ATOM    280  C   ARG A  51      27.332  27.077   6.391  1.00 38.94           C
ATOM    281  O   ARG A  51      27.668  27.908   7.259  1.00 38.35           O
ATOM    282  CB  ARG A  51      26.199  28.120   4.438  1.00 39.34           C
ATOM    283  CG  ARG A  51      26.372  28.781   3.067  1.00 41.10           C
ATOM    284  CD  ARG A  51      25.099  29.355   2.486  1.00 42.20           C
ATOM    285  NE  ARG A  51      24.111  28.314   2.192  1.00 44.96           N
ATOM    286  CZ  ARG A  51      22.815  28.551   2.043  1.00 46.68           C
ATOM    287  NH1 ARG A  51      22.348  29.795   2.162  1.00 47.61           N
ATOM    288  NH2 ARG A  51      21.980  27.563   1.774  1.00 46.08           N
ATOM    289  N   ALA A  52      26.882  25.867   6.688  1.00 38.31           N
ATOM    290  CA  ALA A  52      26.729  25.498   8.082  1.00 38.63           C
ATOM    291  C   ALA A  52      28.093  25.311   8.677  1.00 38.81           C
ATOM    292  O   ALA A  52      28.341  25.682   9.816  1.00 39.03           O
ATOM    293  CB  ALA A  52      25.907  24.233   8.235  1.00 38.36           C
ATOM    294  N   GLU A  53      28.988  24.733   7.899  1.00 39.48           N
ATOM    295  CA  GLU A  53      30.316  24.484   8.388  1.00 40.51           C
ATOM    296  C   GLU A  53      31.038  25.802   8.621  1.00 40.41           C
ATOM    297  O   GLU A  53      31.740  25.954   9.618  1.00 39.82           O
ATOM    298  CB  GLU A  53      31.093  23.614   7.436  1.00 40.70           C
ATOM    299  CG  GLU A  53      32.129  22.790   8.171  1.00 44.79           C
ATOM    300  CD  GLU A  53      31.596  21.435   8.633  1.00 48.98           C
ATOM    301  OE1 GLU A  53      30.427  21.329   9.017  1.00 51.56           O
ATOM    302  OE2 GLU A  53      32.354  20.454   8.620  1.00 54.44           O
ATOM    303  N   GLU A  54      30.851  26.752   7.713  1.00 40.45           N
ATOM    304  CA  GLU A  54      31.465  28.060   7.853  1.00 41.40           C
ATOM    305  C   GLU A  54      30.991  28.731   9.162  1.00 40.32           C
ATOM    306  O   GLU A  54      31.760  29.374   9.836  1.00 39.89           O
ATOM    307  CB  GLU A  54      31.119  28.974   6.679  1.00 42.12           C
ATOM    308  CG  GLU A  54      31.697  28.557   5.333  1.00 47.25           C
ATOM    309  CD  GLU A  54      30.953  29.191   4.129  1.00 53.54           C
ATOM    310  OE1 GLU A  54      30.459  30.366   4.276  1.00 57.47           O
ATOM    311  OE2 GLU A  54      30.882  28.527   3.036  1.00 53.82           O
ATOM    312  N   LEU A  55      29.735  28.534   9.533  1.00 39.03           N
ATOM    313  CA  LEU A  55      29.223  29.198  10.687  1.00 37.80           C
ATOM    314  C   LEU A  55      29.840  28.673  11.956  1.00 36.83           C
ATOM    315  O   LEU A  55      30.293  29.464  12.795  1.00 35.66           O
ATOM    316  CB  LEU A  55      27.715  29.081  10.725  1.00 38.06           C
ATOM    317  CG  LEU A  55      27.072  29.921   9.621  1.00 37.63           C
ATOM    318  CD1 LEU A  55      25.620  29.569   9.449  1.00 39.63           C
ATOM    319  CD2 LEU A  55      27.174  31.356   9.928  1.00 36.27           C
ATOM    320  N   ILE A  56      29.876  27.346  12.079  1.00 35.87           N
ATOM    321  CA  ILE A  56      30.436  26.684  13.257  1.00 35.35           C
ATOM    322  C   ILE A  56      31.916  27.001  13.410  1.00 35.82           C
ATOM    323  O   ILE A  56      32.377  27.299  14.499  1.00 36.59           O
ATOM    324  CB  ILE A  56      30.281  25.198  13.139  1.00 34.84           C
ATOM    325  CG1 ILE A  56      28.790  24.810  13.132  1.00 34.00           C
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ATOM    326  CG2 ILE A  56      31.022  24.535  14.280  1.00 34.89           C
ATOM    327  CD1 ILE A  56      28.502  23.361  12.684  1.00 30.65           C
ATOM    328  N   GLU A  57      32.636  26.964  12.301  1.00 36.28           N
ATOM    329  CA  GLU A  57      34.056  27.244  12.255  1.00 37.26           C
ATOM    330  C   GLU A  57      34.295  28.634  12.809  1.00 37.41           C
ATOM    331  O   GLU A  57      35.278  28.879  13.516  1.00 38.73           O
ATOM    332  CB  GLU A  57      34.562  27.167  10.795  1.00 37.54           C
ATOM    333  CG  GLU A  57      36.035  27.462  10.572  1.00 39.41           C
ATOM    334  CD  GLU A  57      36.948  26.668  11.493  1.00 44.86           C
ATOM    335  OE1 GLU A  57      36.666  25.458  11.741  1.00 48.72           O
ATOM    336  OE2 GLU A  57      37.961  27.260  11.965  1.00 46.32           O
ATOM    337  N   ASN A  58      33.386  29.537  12.485  1.00 36.64           N
ATOM    338  CA  ASN A  58      33.456  30.907  12.926  1.00 36.26           C
ATOM    339  C   ASN A  58      32.768  31.226  14.219  1.00 35.28           C
ATOM    340  O   ASN A  58      32.569  32.376  14.531  1.00 33.45           O
ATOM    341  CB  ASN A  58      32.798  31.758  11.898  1.00 36.88           C
ATOM    342  CG  ASN A  58      33.763  32.461  11.107  1.00 39.77           C
ATOM    343  OD1 ASN A  58      34.140  31.983  10.018  1.00 41.34           O
ATOM    344  ND2 ASN A  58      34.241  33.617  11.639  1.00 41.14           N
ATOM    345  N   GLU A  59      32.366  30.205  14.945  1.00 35.05           N
ATOM    346  CA  GLU A  59      31.706  30.415  16.226  1.00 35.00           C
ATOM    347  C   GLU A  59      30.481  31.314  16.133  1.00 33.86           C
ATOM    348  O   GLU A  59      30.293  32.238  16.904  1.00 33.16           O
ATOM    349  CB  GLU A  59      32.729  30.855  17.244  1.00 34.95           C
ATOM    350  CG  GLU A  59      33.708  29.700  17.423  1.00 37.79           C
ATOM    351  CD  GLU A  59      34.652  29.820  18.586  1.00 39.57           C
ATOM    352  OE1 GLU A  59      35.809  30.145  18.349  1.00 43.67           O
ATOM    353  OE2 GLU A  59      34.254  29.545  19.723  1.00 45.29           O
ATOM    354  N   GLU A  60      29.644  30.995  15.157  1.00 32.92           N
ATOM    355  CA  GLU A  60      28.359  31.641  14.983  1.00 32.66           C
ATOM    356  C   GLU A  60      27.284  30.576  14.993  1.00 30.59           C
ATOM    357  O   GLU A  60      27.456  29.485  14.461  1.00 30.47           O
ATOM    358  CB  GLU A  60      28.312  32.400  13.685  1.00 33.20           C
ATOM    359  CG  GLU A  60      29.384  33.454  13.615  1.00 38.62           C
ATOM    360  CD  GLU A  60      28.955  34.617  12.762  1.00 45.73           C
ATOM    361  OE1 GLU A  60      29.075  34.553  11.519  1.00 48.47           O
ATOM    362  OE2 GLU A  60      28.466  35.587  13.367  1.00 53.89           O
ATOM    363  N   PRO A  61      26.152  30.915  15.560  1.00 28.63           N
ATOM    364  CA  PRO A  61      25.073  29.954  15.735  1.00 28.05           C
ATOM    365  C   PRO A  61      24.462  29.451  14.443  1.00 27.61           C
ATOM    366  O   PRO A  61      24.475  30.120  13.426  1.00 27.23           O
ATOM    367  CB  PRO A  61      24.021  30.754  16.492  1.00 28.67           C
ATOM    368  CG  PRO A  61      24.385  32.140  16.400  1.00 27.46           C
ATOM    369  CD  PRO A  61      25.811  32.253  16.038  1.00 27.71           C
ATOM    370  N   VAL A  62      23.936  28.237  14.475  1.00 27.43           N
ATOM    371  CA  VAL A  62      23.254  27.685  13.317  1.00 27.09           C
ATOM    372  C   VAL A  62      22.372  26.569  13.802  1.00 27.40           C
ATOM    373  O   VAL A  62      22.707  25.893  14.780  1.00 27.79           O
ATOM    374  CB  VAL A  62      24.219  27.181  12.270  1.00 27.04           C
ATOM    375  CG1 VAL A  62      25.106  26.166  12.829  1.00 27.34           C
ATOM    376  CG2 VAL A  62      23.473  26.659  11.037  1.00 27.58           C
ATOM    377  N   VAL A  63      21.195  26.440  13.199  1.00 27.19           N
ATOM    378  CA  VAL A  63      20.339  25.338  13.526  1.00 27.37           C
ATOM    379  C   VAL A  63      20.540  24.324  12.383  1.00 27.33           C
ATOM    380  O   VAL A  63      20.360  24.672  11.208  1.00 27.05           O
ATOM    381  CB  VAL A  63      18.857  25.737  13.611  1.00 27.47           C
ATOM    382  CG1 VAL A  63      17.976  24.446  13.695  1.00 28.55           C
ATOM    383  CG2 VAL A  63      18.616  26.603  14.793  1.00 25.77           C
ATOM    384  N   LEU A  64      20.933  23.114  12.743  1.00 27.26           N
ATOM    385  CA  LEU A  64      21.119  22.001  11.820  1.00 28.51           C
ATOM    386  C   LEU A  64      19.897  21.128  11.894  1.00 28.40           C
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ATOM	387	O	LEU	A	64	19.517	20.692	12.982	1.00	28.69	O
ATOM	388	CB	LEU	A	64	22.352	21.187	12.204	1.00	28.92	C
ATOM	389	CG	LEU	A	64	23.624	22.016	12.142	1.00	31.65	C
ATOM	390	CD1	LEU	A	64	24.800	21.273	12.534	1.00	34.84	C
ATOM	391	CD2	LEU	A	64	23.843	22.490	10.722	1.00	35.77	C
ATOM	392	N	THR	A	65	19.284	20.868	10.752	1.00	28.44	N
ATOM	393	CA	THR	A	65	18.003	20.164	10.721	1.00	29.54	C
ATOM	394	C	THR	A	65	18.054	18.659	10.534	1.00	29.40	C
ATOM	395	O	THR	A	65	17.046	17.985	10.799	1.00	29.20	O
ATOM	396	CB	THR	A	65	17.139	20.679	9.552	1.00	30.07	C
ATOM	397	OG1	THR	A	65	17.879	20.569	8.318	1.00	30.75	O
ATOM	398	CG2	THR	A	65	16.878	22.137	9.665	1.00	31.86	C
ATOM	399	N	ASP	A	66	19.183	18.150	10.059	1.00	29.30	N
ATOM	400	CA	ASP	A	66	19.323	16.722	9.719	1.00	29.78	C
ATOM	401	C	ASP	A	66	20.573	15.970	10.196	1.00	29.12	C
ATOM	402	O	ASP	A	66	21.081	15.141	9.432	1.00	29.09	O
ATOM	403	CB	ASP	A	66	19.301	16.582	8.195	1.00	29.41	C
ATOM	404	CG	ASP	A	66	20.274	17.507	7.525	1.00	32.36	C
ATOM	405	OD1	ASP	A	66	20.924	18.319	8.230	1.00	34.87	O
ATOM	406	OD2	ASP	A	66	20.447	17.534	6.287	1.00	35.70	O
ATOM	407	N	THR	A	67	21.078	16.254	11.404	1.00	28.05	N
ATOM	408	CA	THR	A	67	22.266	15.565	11.897	1.00	27.24	C
ATOM	409	C	THR	A	67	21.943	14.171	12.355	1.00	26.92	C
ATOM	410	O	THR	A	67	22.807	13.297	12.367	1.00	25.98	O
ATOM	411	CB	THR	A	67	22.856	16.258	13.134	1.00	27.78	C
ATOM	412	OG1	THR	A	67	21.874	16.338	14.186	1.00	25.71	O
ATOM	413	CG2	THR	A	67	23.268	17.664	12.820	1.00	29.22	C
ATOM	414	N	ASN	A	68	20.704	13.979	12.777	1.00	26.53	N
ATOM	415	CA	ASN	A	68	20.307	12.711	13.355	1.00	27.10	C
ATOM	416	C	ASN	A	68	21.075	12.499	14.647	1.00	26.46	C
ATOM	417	O	ASN	A	68	21.223	11.399	15.092	1.00	26.90	O
ATOM	418	CB	ASN	A	68	20.583	11.547	12.401	1.00	27.41	C
ATOM	419	CG	ASN	A	68	19.546	11.415	11.308	1.00	28.18	C
ATOM	420	OD1	ASN	A	68	18.345	11.286	11.566	1.00	29.22	O
ATOM	421	ND2	ASN	A	68	20.006	11.445	10.077	1.00	29.40	N
ATOM	422	N	LEU	A	69	21.585	13.569	15.227	1.00	26.58	N
ATOM	423	CA	LEU	A	69	22.429	13.481	16.427	1.00	26.67	C
ATOM	424	C	LEU	A	69	21.832	12.639	17.558	1.00	26.73	C
ATOM	425	O	LEU	A	69	22.550	11.822	18.166	1.00	27.74	O
ATOM	426	CB	LEU	A	69	22.739	14.870	16.968	1.00	26.04	C
ATOM	427	CG	LEU	A	69	23.677	14.904	18.157	1.00	26.23	C
ATOM	428	CD1	LEU	A	69	24.986	14.168	17.894	1.00	27.92	C
ATOM	429	CD2	LEU	A	69	23.976	16.343	18.556	1.00	24.74	C
ATOM	430	N	VAL	A	70	20.557	12.857	17.861	1.00	26.02	N
ATOM	431	CA	VAL	A	70	19.882	12.091	18.898	1.00	26.50	C
ATOM	432	C	VAL	A	70	18.673	11.364	18.345	1.00	26.71	C
ATOM	433	O	VAL	A	70	17.650	11.183	19.015	1.00	25.59	O
ATOM	434	CB	VAL	A	70	19.479	12.943	20.098	1.00	26.46	C
ATOM	435	CG1	VAL	A	70	20.717	13.505	20.764	1.00	28.17	C
ATOM	436	CG2	VAL	A	70	18.517	14.016	19.716	1.00	23.88	C
ATOM	437	N	TYR	A	71	18.832	10.920	17.113	1.00	27.86	N
ATOM	438	CA	TYR	A	71	17.791	10.159	16.451	1.00	29.60	C
ATOM	439	C	TYR	A	71	17.093	9.167	17.388	1.00	29.76	C
ATOM	440	O	TYR	A	71	15.905	9.202	17.478	1.00	30.54	O
ATOM	441	CB	TYR	A	71	18.326	9.459	15.208	1.00	29.31	C
ATOM	442	CG	TYR	A	71	17.347	8.479	14.686	1.00	31.42	C
ATOM	443	CD1	TYR	A	71	16.136	8.884	14.120	1.00	31.39	C
ATOM	444	CD2	TYR	A	71	17.610	7.107	14.779	1.00	32.30	C
ATOM	445	CE1	TYR	A	71	15.223	7.905	13.641	1.00	31.86	C
ATOM	446	CE2	TYR	A	71	16.736	6.181	14.317	1.00	29.75	C
ATOM	447	CZ	TYR	A	71	15.556	6.558	13.755	1.00	31.10	C

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ATOM    448  OH  TYR A  71      14.698   5.530  13.342  1.00 39.44           O
ATOM    449  N   PRO A  72      17.807   8.317  18.108  1.00 30.56           N
ATOM    450  CA  PRO A  72      17.150   7.336  18.991  1.00 30.85           C
ATOM    451  C   PRO A  72      16.389   7.914  20.158  1.00 30.85           C
ATOM    452  O   PRO A  72      15.549   7.233  20.750  1.00 30.12           O
ATOM    453  CB  PRO A  72      18.310   6.468  19.507  1.00 30.71           C
ATOM    454  CG  PRO A  72      19.420   6.692  18.515  1.00 31.79           C
ATOM    455  CD  PRO A  72      19.268   8.158  18.096  1.00 30.88           C
ATOM    456  N   ALA A  73      16.650   9.166  20.508  1.00 31.72           N
ATOM    457  CA  ALA A  73      15.918   9.743  21.627  1.00 31.71           C
ATOM    458  C   ALA A  73      14.596  10.371  21.172  1.00 31.83           C
ATOM    459  O   ALA A  73      13.786  10.808  22.000  1.00 31.52           O
ATOM    460  CB  ALA A  73      16.762  10.742  22.340  1.00 32.17           C
ATOM    461  N   LEU A  74      14.345  10.408  19.868  1.00 31.19           N
ATOM    462  CA  LEU A  74      13.108  11.028  19.439  1.00 32.01           C
ATOM    463  C   LEU A  74      11.856  10.343  19.965  1.00 32.30           C
ATOM    464  O   LEU A  74      10.807  10.914  19.963  1.00 31.90           O
ATOM    465  CB  LEU A  74      13.050  11.191  17.931  1.00 31.25           C
ATOM    466  CG  LEU A  74      14.140  12.103  17.400  1.00 34.53           C
ATOM    467  CD1 LEU A  74      13.904  12.418  15.965  1.00 37.35           C
ATOM    468  CD2 LEU A  74      14.264  13.436  18.200  1.00 34.44           C
ATOM    469  N   LYS A  75      11.963   9.100  20.396  1.00 34.18           N
ATOM    470  CA  LYS A  75      10.802   8.376  20.910  1.00 34.36           C
ATOM    471  C   LYS A  75      10.618   8.616  22.403  1.00 35.18           C
ATOM    472  O   LYS A  75       9.575   8.304  22.945  1.00 35.70           O
ATOM    473  CB  LYS A  75      10.950   6.876  20.631  1.00 34.51           C
ATOM    474  CG  LYS A  75      12.138   6.219  21.294  1.00 33.19           C
ATOM    475  CD  LYS A  75      12.302   4.754  20.834  1.00 31.54           C
ATOM    476  CE  LYS A  75      13.796   4.304  20.744  1.00 29.70           C
ATOM    477  NZ  LYS A  75      14.460   4.158  22.026  1.00 28.79           N
ATOM    478  N   TRP A  76      11.619   9.181  23.071  1.00 35.44           N
ATOM    479  CA  TRP A  76      11.517   9.426  24.495  1.00 36.05           C
ATOM    480  C   TRP A  76      10.307  10.264  24.893  1.00 37.47           C
ATOM    481  O   TRP A  76       9.958  11.222  24.212  1.00 38.43           O
ATOM    482  CB  TRP A  76      12.742  10.179  24.994  1.00 35.67           C
ATOM    483  CG  TRP A  76      13.980   9.395  24.963  1.00 33.87           C
ATOM    484  CD1 TRP A  76      14.136   8.116  24.520  1.00 32.29           C
ATOM    485  CD2 TRP A  76      15.252   9.821  25.409  1.00 30.36           C
ATOM    486  NE1 TRP A  76      15.440   7.723  24.673  1.00 30.42           N
ATOM    487  CE2 TRP A  76      16.143   8.754  25.221  1.00 28.82           C
ATOM    488  CE3 TRP A  76      15.739  11.013  25.954  1.00 29.45           C
ATOM    489  CZ2 TRP A  76      17.471   8.833  25.560  1.00 30.56           C
ATOM    490  CZ3 TRP A  76      17.056  11.091  26.291  1.00 29.56           C
ATOM    491  CH2 TRP A  76      17.917  10.017  26.092  1.00 30.20           C
ATOM    492  N   ASP A  77       9.698   9.894  26.014  1.00 38.14           N
ATOM    493  CA  ASP A  77       8.620  10.640  26.635  1.00 38.33           C
ATOM    494  C   ASP A  77       8.653  10.223  28.094  1.00 37.89           C
ATOM    495  O   ASP A  77       9.443   9.390  28.447  1.00 37.97           O
ATOM    496  CB  ASP A  77       7.283  10.353  25.974  1.00 38.71           C
ATOM    497  CG  ASP A  77       6.882   8.904  26.049  1.00 39.50           C
ATOM    498  OD1 ASP A  77       7.414   8.107  26.867  1.00 41.50           O
ATOM    499  OD2 ASP A  77       6.006   8.472  25.299  1.00 41.98           O
ATOM    500  N   LEU A  78       7.838  10.800  28.955  1.00 38.47           N
ATOM    501  CA  LEU A  78       7.941  10.481  30.375  1.00 39.09           C
ATOM    502  C   LEU A  78       7.734   9.002  30.662  1.00 39.89           C
ATOM    503  O   LEU A  78       8.421   8.423  31.507  1.00 40.19           O
ATOM    504  CB  LEU A  78       6.966  11.310  31.171  1.00 39.02           C
ATOM    505  CG  LEU A  78       7.169  12.815  31.042  1.00 41.51           C
ATOM    506  CD1 LEU A  78       6.058  13.567  31.764  1.00 42.72           C
ATOM    507  CD2 LEU A  78       8.522  13.216  31.618  1.00 42.31           C
ATOM    508  N   GLU A  79       6.795   8.369  29.971  1.00 40.66           N
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ATOM    509  CA  GLU A  79       6.557   6.948  30.212  1.00 41.43           C
ATOM    510  C   GLU A  79       7.794   6.086  29.909  1.00 40.84           C
ATOM    511  O   GLU A  79       8.228   5.283  30.742  1.00 40.45           O
ATOM    512  CB  GLU A  79       5.343   6.458  29.418  1.00 42.10           C
ATOM    513  CG  GLU A  79       5.023   4.998  29.658  1.00 45.06           C
ATOM    514  CD  GLU A  79       3.840   4.525  28.846  1.00 49.74           C
ATOM    515  OE1 GLU A  79       3.436   5.254  27.914  1.00 52.37           O
ATOM    516  OE2 GLU A  79       3.316   3.426  29.150  1.00 53.21           O
ATOM    517  N   TYR A  80       8.361   6.248  28.718  1.00 40.43           N
ATOM    518  CA  TYR A  80       9.559   5.495  28.362  1.00 40.14           C
ATOM    519  C   TYR A  80      10.750   5.765  29.297  1.00 40.06           C
ATOM    520  O   TYR A  80      11.485   4.844  29.664  1.00 39.72           O
ATOM    521  CB  TYR A  80       9.946   5.832  26.946  1.00 39.96           C
ATOM    522  CG  TYR A  80      11.193   5.147  26.420  1.00 39.51           C
ATOM    523  CD1 TYR A  80      11.118   3.897  25.804  1.00 38.93           C
ATOM    524  CD2 TYR A  80      12.433   5.768  26.490  1.00 36.89           C
ATOM    525  CE1 TYR A  80      12.253   3.277  25.290  1.00 38.08           C
ATOM    526  CE2 TYR A  80      13.562   5.154  25.993  1.00 38.15           C
ATOM    527  CZ  TYR A  80      13.468   3.915  25.379  1.00 39.06           C
ATOM    528  OH  TYR A  80      14.604   3.319  24.863  1.00 38.99           O
ATOM    529  N   LEU A  81      10.935   7.017  29.688  1.00 39.68           N
ATOM    530  CA  LEU A  81      12.061   7.362  30.565  1.00 40.01           C
ATOM    531  C   LEU A  81      11.858   6.806  31.978  1.00 39.86           C
ATOM    532  O   LEU A  81      12.792   6.284  32.608  1.00 39.47           O
ATOM    533  CB  LEU A  81      12.314   8.889  30.604  1.00 39.50           C
ATOM    534  CG  LEU A  81      12.765   9.532  29.287  1.00 39.76           C
ATOM    535  CD1 LEU A  81      12.805  11.045  29.402  1.00 39.84           C
ATOM    536  CD2 LEU A  81      14.117   9.018  28.840  1.00 39.32           C
ATOM    537  N   GLN A  82      10.645   6.932  32.482  1.00 40.38           N
ATOM    538  CA  GLN A  82      10.346   6.415  33.804  1.00 41.02           C
ATOM    539  C   GLN A  82      10.612   4.920  33.799  1.00 40.84           C
ATOM    540  O   GLN A  82      11.193   4.379  34.711  1.00 40.35           O
ATOM    541  CB  GLN A  82       8.900   6.688  34.164  1.00 41.40           C
ATOM    542  CG  GLN A  82       8.447   5.906  35.351  1.00 42.97           C
ATOM    543  CD  GLN A  82       7.291   6.560  36.099  1.00 45.14           C
ATOM    544  OE1 GLN A  82       6.662   7.502  35.616  1.00 44.10           O
ATOM    545  NE2 GLN A  82       7.003   6.039  37.287  1.00 48.04           N
ATOM    546  N   GLU A  83      10.222   4.256  32.728  1.00 41.35           N
ATOM    547  CA  GLU A  83      10.442   2.816  32.620  1.00 41.46           C
ATOM    548  C   GLU A  83      11.926   2.444  32.465  1.00 40.81           C
ATOM    549  O   GLU A  83      12.350   1.407  32.958  1.00 41.13           O
ATOM    550  CB  GLU A  83       9.610   2.243  31.472  1.00 41.27           C
ATOM    551  CG  GLU A  83       9.609   0.728  31.366  1.00 44.77           C
ATOM    552  CD  GLU A  83       8.878   0.018  32.514  1.00 49.16           C
ATOM    553  OE1 GLU A  83       8.219   0.672  33.347  1.00 52.26           O
ATOM    554  OE2 GLU A  83       8.978  -1.220  32.606  1.00 53.23           O
ATOM    555  N   ASN A  84      12.743   3.298  31.854  1.00 39.81           N
ATOM    556  CA  ASN A  84      14.099   2.859  31.515  1.00 38.82           C
ATOM    557  C   ASN A  84      15.290   3.611  32.048  1.00 38.20           C
ATOM    558  O   ASN A  84      16.402   3.117  31.919  1.00 36.98           O
ATOM    559  CB  ASN A  84      14.244   2.828  29.995  1.00 38.83           C
ATOM    560  CG  ASN A  84      13.301   1.865  29.349  1.00 38.45           C
ATOM    561  OD1 ASN A  84      13.307   0.670  29.664  1.00 40.40           O
ATOM    562  ND2 ASN A  84      12.480   2.365  28.441  1.00 35.77           N
ATOM    563  N   ILE A  85      15.088   4.781  32.645  1.00 38.08           N
ATOM    564  CA  ILE A  85      16.226   5.598  32.998  1.00 38.57           C
ATOM    565  C   ILE A  85      16.929   5.280  34.307  1.00 38.70           C
ATOM    566  O   ILE A  85      17.849   5.993  34.702  1.00 39.78           O
ATOM    567  CB  ILE A  85      15.827   7.056  32.932  1.00 39.02           C
ATOM    568  CG1 ILE A  85      17.001   7.891  32.418  1.00 39.43           C
ATOM    569  CG2 ILE A  85      15.291   7.544  34.266  1.00 39.22           C
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ATOM    570  CD1 ILE A  85      16.618   9.347  32.148  1.00 40.41           C
ATOM    571  N   GLY A  86      16.513   4.227  34.993  1.00 38.59           N
ATOM    572  CA  GLY A  86      17.208   3.801  36.199  1.00 38.15           C
ATOM    573  C   GLY A  86      16.658   4.386  37.476  1.00 37.92           C
ATOM    574  O   GLY A  86      15.652   5.097  37.461  1.00 37.90           O
ATOM    575  N   ASN A  87      17.359   4.113  38.574  1.00 37.70           N
ATOM    576  CA  ASN A  87      16.941   4.542  39.899  1.00 37.34           C
ATOM    577  C   ASN A  87      17.898   5.576  40.487  1.00 36.99           C
ATOM    578  O   ASN A  87      17.920   5.807  41.710  1.00 36.36           O
ATOM    579  CB  ASN A  87      16.786   3.306  40.840  1.00 37.40           C
ATOM    580  N   GLY A  88      18.676   6.224  39.618  1.00 37.00           N
ATOM    581  CA  GLY A  88      19.593   7.272  40.056  1.00 36.90           C
ATOM    582  C   GLY A  88      18.855   8.506  40.541  1.00 36.61           C
ATOM    583  O   GLY A  88      17.673   8.648  40.298  1.00 36.55           O
ATOM    584  N   ASP A  89      19.532   9.392  41.250  1.00 37.05           N
ATOM    585  CA  ASP A  89      18.882  10.640  41.687  1.00 37.92           C
ATOM    586  C   ASP A  89      18.812  11.654  40.548  1.00 37.52           C
ATOM    587  O   ASP A  89      19.724  11.713  39.730  1.00 37.73           O
ATOM    588  CB  ASP A  89      19.639  11.281  42.840  1.00 38.02           C
ATOM    589  CG  ASP A  89      19.342  10.639  44.165  1.00 40.19           C
ATOM    590  OD1 ASP A  89      18.398   9.813  44.252  1.00 44.15           O
ATOM    591  OD2 ASP A  89      20.002  10.918  45.186  1.00 42.25           O
ATOM    592  N   PHE A  90      17.734  12.438  40.491  1.00 37.19           N
ATOM    593  CA  PHE A  90      17.638  13.546  39.520  1.00 36.65           C
ATOM    594  C   PHE A  90      17.435  14.912  40.182  1.00 36.57           C
ATOM    595  O   PHE A  90      16.551  15.078  41.015  1.00 36.80           O
ATOM    596  CB  PHE A  90      16.512  13.310  38.516  1.00 35.79           C
ATOM    597  CG  PHE A  90      16.793  12.200  37.551  1.00 35.34           C
ATOM    598  CD1 PHE A  90      16.627  10.870  37.931  1.00 34.10           C
ATOM    599  CD2 PHE A  90      17.235  12.472  36.275  1.00 34.19           C
ATOM    600  CE1 PHE A  90      16.875   9.854  37.061  1.00 31.47           C
ATOM    601  CE2 PHE A  90      17.488  11.452  35.404  1.00 35.32           C
ATOM    602  CZ  PHE A  90      17.315  10.123  35.813  1.00 34.26           C
ATOM    603  N   SER A  91      18.257  15.886  39.803  1.00 36.85           N
ATOM    604  CA  SER A  91      18.077  17.264  40.278  1.00 37.16           C
ATOM    605  C   SER A  91      16.856  17.884  39.612  1.00 37.28           C
ATOM    606  O   SER A  91      16.761  17.912  38.392  1.00 36.72           O
ATOM    607  CB  SER A  91      19.278  18.146  39.971  1.00 36.75           C
ATOM    608  OG  SER A  91      20.470  17.600  40.456  1.00 35.79           O
ATOM    609  N   VAL A  92      15.938  18.374  40.434  1.00 37.83           N
ATOM    610  CA  VAL A  92      14.740  19.022  39.963  1.00 38.40           C
ATOM    611  C   VAL A  92      14.549  20.334  40.690  1.00 39.41           C
ATOM    612  O   VAL A  92      14.465  20.394  41.941  1.00 39.08           O
ATOM    613  CB  VAL A  92      13.507  18.227  40.298  1.00 38.96           C
ATOM    614  CG1 VAL A  92      12.270  19.005  39.893  1.00 38.57           C
ATOM    615  CG2 VAL A  92      13.556  16.837  39.651  1.00 39.45           C
ATOM    616  N   TYR A  93      14.426  21.386  39.895  1.00 39.95           N
ATOM    617  CA  TYR A  93      14.214  22.701  40.419  1.00 40.34           C
ATOM    618  C   TYR A  93      12.756  22.950  40.459  1.00 40.76           C
ATOM    619  O   TYR A  93      11.999  22.493  39.583  1.00 40.39           O
ATOM    620  CB  TYR A  93      14.897  23.729  39.529  1.00 40.89           C
ATOM    621  CG  TYR A  93      16.369  23.580  39.627  1.00 40.80           C
ATOM    622  CD1 TYR A  93      17.067  24.135  40.681  1.00 40.79           C
ATOM    623  CD2 TYR A  93      17.042  22.801  38.743  1.00 41.05           C
ATOM    624  CE1 TYR A  93      18.395  23.953  40.802  1.00 41.05           C
ATOM    625  CE2 TYR A  93      18.363  22.629  38.852  1.00 42.75           C
ATOM    626  CZ  TYR A  93      19.037  23.204  39.881  1.00 42.45           C
ATOM    627  OH  TYR A  93      20.372  22.965  39.971  1.00 47.63           O
ATOM    628  N   SER A  94      12.385  23.699  41.482  1.00 41.70           N
ATOM    629  CA  SER A  94      11.014  24.053  41.743  1.00 42.70           C
ATOM    630  C   SER A  94      10.965  25.565  41.855  1.00 43.09           C
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ATOM    631  O   SER A  94      11.851  26.181  42.441  1.00 43.63           O
ATOM    632  CB  SER A  94      10.570  23.415  43.051  1.00 42.76           C
ATOM    633  OG  SER A  94       9.258  23.841  43.395  1.00 45.05           O
ATOM    634  N   ALA A  95       9.929  26.171  41.308  1.00 43.42           N
ATOM    635  CA  ALA A  95       9.839  27.607  41.323  1.00 43.49           C
ATOM    636  C   ALA A  95       8.416  28.083  41.281  1.00 43.87           C
ATOM    637  O   ALA A  95       7.520  27.416  40.789  1.00 43.95           O
ATOM    638  CB  ALA A  95      10.572  28.164  40.145  1.00 43.70           C
ATOM    639  N   SER A  96       8.219  29.287  41.770  1.00 44.66           N
ATOM    640  CA  SER A  96       6.901  29.866  41.757  1.00 45.08           C
ATOM    641  C   SER A  96       6.767  30.914  40.668  1.00 44.27           C
ATOM    642  O   SER A  96       5.783  31.636  40.637  1.00 45.20           O
ATOM    643  CB  SER A  96       6.604  30.510  43.095  1.00 45.33           C
ATOM    644  OG  SER A  96       5.384  31.199  42.973  1.00 47.96           O
ATOM    645  N   THR A  97       7.776  31.034  39.819  1.00 42.95           N
ATOM    646  CA  THR A  97       7.738  31.962  38.688  1.00 42.08           C
ATOM    647  C   THR A  97       8.103  31.184  37.461  1.00 40.94           C
ATOM    648  O   THR A  97       8.604  30.095  37.584  1.00 40.73           O
ATOM    649  CB  THR A  97       8.779  33.088  38.826  1.00 42.48           C
ATOM    650  OG1 THR A  97       8.964  33.707  37.546  1.00 43.60           O
ATOM    651  CG2 THR A  97      10.209  32.544  39.156  1.00 42.12           C
ATOM    652  N   HIS A  98       7.904  31.734  36.275  1.00 40.18           N
ATOM    653  CA  HIS A  98       8.319  31.012  35.074  1.00 40.09           C
ATOM    654  C   HIS A  98       9.840  31.036  34.883  1.00 39.78           C
ATOM    655  O   HIS A  98      10.376  30.277  34.078  1.00 38.48           O
ATOM    656  CB  HIS A  98       7.660  31.580  33.824  1.00 40.00           C
ATOM    657  CG  HIS A  98       7.947  33.028  33.582  1.00 40.56           C
ATOM    658  ND1 HIS A  98       7.297  34.041  34.259  1.00 40.13           N
ATOM    659  CD2 HIS A  98       8.805  33.640  32.729  1.00 42.26           C
ATOM    660  CE1 HIS A  98       7.741  35.212  33.841  1.00 37.08           C
ATOM    661  NE2 HIS A  98       8.661  35.002  32.915  1.00 39.74           N
ATOM    662  N   LYS A  99      10.526  31.883  35.652  1.00 39.73           N
ATOM    663  CA  LYS A  99      11.948  32.082  35.476  1.00 40.45           C
ATOM    664  C   LYS A  99      12.861  31.221  36.332  1.00 40.34           C
ATOM    665  O   LYS A  99      12.904  31.376  37.554  1.00 41.93           O
ATOM    666  CB  LYS A  99      12.279  33.535  35.730  1.00 40.89           C
ATOM    667  CG  LYS A  99      11.819  34.443  34.624  1.00 43.12           C
ATOM    668  CD  LYS A  99      12.466  35.806  34.753  1.00 46.04           C
ATOM    669  CE  LYS A  99      11.733  36.727  35.711  1.00 48.26           C
ATOM    670  NZ  LYS A  99      10.662  37.495  35.003  1.00 49.55           N
ATOM    671  N   PHE A 100      13.622  30.335  35.700  1.00 39.70           N
ATOM    672  CA  PHE A 100      14.554  29.487  36.447  1.00 39.48           C
ATOM    673  C   PHE A 100      16.001  30.011  36.390  1.00 39.52           C
ATOM    674  O   PHE A 100      16.874  29.435  35.718  1.00 38.87           O
ATOM    675  CB  PHE A 100      14.485  28.056  35.939  1.00 39.33           C
ATOM    676  CG  PHE A 100      13.266  27.328  36.377  1.00 38.47           C
ATOM    677  CD1 PHE A 100      12.059  27.519  35.725  1.00 36.20           C
ATOM    678  CD2 PHE A 100      13.327  26.441  37.443  1.00 37.31           C
ATOM    679  CE1 PHE A 100      10.960  26.846  36.125  1.00 36.52           C
ATOM    680  CE2 PHE A 100      12.212  25.751  37.849  1.00 36.40           C
ATOM    681  CZ  PHE A 100      11.037  25.946  37.206  1.00 36.52           C
ATOM    682  N   LEU A 101      16.244  31.130  37.066  1.00 39.53           N
ATOM    683  CA  LEU A 101      17.592  31.667  37.170  1.00 39.36           C
ATOM    684  C   LEU A 101      18.548  30.642  37.787  1.00 39.88           C
ATOM    685  O   LEU A 101      18.345  30.152  38.899  1.00 39.47           O
ATOM    686  CB  LEU A 101      17.574  32.912  38.036  1.00 39.37           C
ATOM    687  CG  LEU A 101      18.828  33.777  38.071  1.00 39.44           C
ATOM    688  CD1 LEU A 101      19.258  34.290  36.693  1.00 37.56           C
ATOM    689  CD2 LEU A 101      18.546  34.926  39.008  1.00 39.90           C
ATOM    690  N   TYR A 102      19.578  30.297  37.032  1.00 41.10           N
ATOM    691  CA  TYR A 102      20.623  29.415  37.507  1.00 41.59           C
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ATOM    692  C   TYR A 102      21.439  30.097  38.611  1.00 42.23           C
ATOM    693  O   TYR A 102      21.778  31.296  38.500  1.00 42.28           O
ATOM    694  CB  TYR A 102      21.580  29.048  36.370  1.00 41.49           C
ATOM    695  CG  TYR A 102      22.706  28.209  36.894  1.00 43.02           C
ATOM    696  CD1 TYR A 102      22.507  26.864  37.200  1.00 42.85           C
ATOM    697  CD2 TYR A 102      23.941  28.761  37.150  1.00 43.85           C
ATOM    698  CE1 TYR A 102      23.504  26.110  37.725  1.00 45.04           C
ATOM    699  CE2 TYR A 102      24.942  28.005  37.696  1.00 46.05           C
ATOM    700  CZ  TYR A 102      24.725  26.681  37.984  1.00 46.73           C
ATOM    701  OH  TYR A 102      25.752  25.915  38.544  1.00 52.49           O
ATOM    702  N   TYR A 103      21.759  29.340  39.657  1.00 42.12           N
ATOM    703  CA  TYR A 103      22.665  29.832  40.690  1.00 42.58           C
ATOM    704  C   TYR A 103      23.632  28.750  41.207  1.00 41.98           C
ATOM    705  O   TYR A 103      23.333  27.560  41.237  1.00 42.05           O
ATOM    706  CB  TYR A 103      21.901  30.435  41.843  1.00 43.03           C
ATOM    707  CG  TYR A 103      20.964  29.493  42.477  1.00 44.79           C
ATOM    708  CD1 TYR A 103      19.691  29.333  41.971  1.00 47.69           C
ATOM    709  CD2 TYR A 103      21.338  28.769  43.590  1.00 49.51           C
ATOM    710  CE1 TYR A 103      18.798  28.456  42.544  1.00 50.63           C
ATOM    711  CE2 TYR A 103      20.449  27.890  44.202  1.00 52.43           C
ATOM    712  CZ  TYR A 103      19.181  27.736  43.658  1.00 52.68           C
ATOM    713  OH  TYR A 103      18.297  26.875  44.234  1.00 56.40           O
ATOM    714  N   ASP A 104      24.809  29.190  41.603  1.00 41.00           N
ATOM    715  CA  ASP A 104      25.844  28.288  42.026  1.00 40.33           C
ATOM    716  C   ASP A 104      25.842  28.250  43.530  1.00 39.98           C
ATOM    717  O   ASP A 104      26.177  29.224  44.219  1.00 38.58           O
ATOM    718  CB  ASP A 104      27.169  28.768  41.492  1.00 40.13           C
ATOM    719  CG  ASP A 104      28.310  27.929  41.958  1.00 42.26           C
ATOM    720  OD1 ASP A 104      28.117  27.151  42.942  1.00 44.33           O
ATOM    721  OD2 ASP A 104      29.429  27.989  41.393  1.00 42.30           O
ATOM    722  N   GLU A 105      25.425  27.110  44.041  1.00 40.20           N
ATOM    723  CA  GLU A 105      25.294  26.950  45.472  1.00 40.26           C
ATOM    724  C   GLU A 105      26.605  27.213  46.228  1.00 39.92           C
ATOM    725  O   GLU A 105      26.577  27.824  47.293  1.00 40.11           O
ATOM    726  CB  GLU A 105      24.747  25.570  45.744  1.00 40.54           C
ATOM    727  CG  GLU A 105      23.245  25.502  45.533  1.00 42.55           C
ATOM    728  CD  GLU A 105      22.709  24.086  45.506  1.00 44.11           C
ATOM    729  OE1 GLU A 105      23.178  23.251  46.323  1.00 46.78           O
ATOM    730  OE2 GLU A 105      21.801  23.815  44.684  1.00 42.74           O
ATOM    731  N   LYS A 106      27.748  26.819  45.661  1.00 39.52           N
ATOM    732  CA  LYS A 106      29.041  26.991  46.336  1.00 39.53           C
ATOM    733  C   LYS A 106      29.370  28.419  46.623  1.00 39.68           C
ATOM    734  O   LYS A 106      30.199  28.697  47.471  1.00 40.24           O
ATOM    735  CB  LYS A 106      30.221  26.479  45.504  1.00 39.89           C
ATOM    736  CG  LYS A 106      30.257  24.976  45.143  1.00 40.25           C
ATOM    737  N   LYS A 107      28.747  29.333  45.894  1.00 40.07           N
ATOM    738  CA  LYS A 107      29.043  30.740  46.031  1.00 39.35           C
ATOM    739  C   LYS A 107      28.061  31.421  46.937  1.00 39.82           C
ATOM    740  O   LYS A 107      28.208  32.586  47.188  1.00 39.28           O
ATOM    741  CB  LYS A 107      29.050  31.410  44.645  1.00 39.29           C
ATOM    742  CG  LYS A 107      30.329  31.155  43.827  1.00 37.47           C
ATOM    743  CD  LYS A 107      30.286  31.702  42.406  1.00 34.55           C
ATOM    744  CE  LYS A 107      31.606  31.470  41.651  1.00 33.57           C
ATOM    745  NZ  LYS A 107      31.607  31.880  40.178  1.00 30.95           N
ATOM    746  N   MET A 108      27.071  30.707  47.458  1.00 41.78           N
ATOM    747  CA  MET A 108      26.079  31.341  48.341  1.00 43.69           C
ATOM    748  C   MET A 108      26.621  31.950  49.646  1.00 44.68           C
ATOM    749  O   MET A 108      26.154  33.004  50.061  1.00 44.99           O
ATOM    750  CB  MET A 108      24.923  30.396  48.594  1.00 44.05           C
ATOM    751  CG  MET A 108      24.195  30.105  47.282  1.00 46.49           C
ATOM    752  SD  MET A 108      22.723  29.125  47.315  1.00 51.54           S
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ATOM	753	CE	MET A 108	21.653	30.080	48.484	1.00	51.43		C
ATOM	754	N	ALA A 109	27.630	31.341	50.254	1.00	46.34		N
ATOM	755	CA	ALA A 109	28.211	31.855	51.510	1.00	47.87		C
ATOM	756	C	ALA A 109	28.697	33.308	51.406	1.00	49.27		C
ATOM	757	O	ALA A 109	28.533	34.114	52.323	1.00	49.44		O
ATOM	758	CB	ALA A 109	29.355	30.958	51.960	1.00	47.63		C
ATOM	759	N	ASN A 110	29.276	33.651	50.269	1.00	50.88		N
ATOM	760	CA	ASN A 110	29.792	35.004	50.069	1.00	51.99		C
ATOM	761	C	ASN A 110	28.732	36.070	49.736	1.00	51.88		C
ATOM	762	O	ASN A 110	29.038	37.252	49.562	1.00	51.14		O
ATOM	763	CB	ASN A 110	30.876	34.939	48.994	1.00	52.43		C
ATOM	764	CG	ASN A 110	32.077	34.080	49.433	1.00	54.41		C
ATOM	765	OD1	ASN A 110	32.460	34.050	50.624	1.00	54.72		O
ATOM	766	ND2	ASN A 110	32.663	33.373	48.478	1.00	56.75		N
ATOM	767	N	PHE A 111	27.484	35.651	49.632	1.00	52.59		N
ATOM	768	CA	PHE A 111	26.404	36.598	49.409	1.00	53.32		C
ATOM	769	C	PHE A 111	25.202	36.180	50.261	1.00	54.75		C
ATOM	770	O	PHE A 111	24.149	35.801	49.749	1.00	54.37		O
ATOM	771	CB	PHE A 111	26.053	36.693	47.923	1.00	52.83		C
ATOM	772	CG	PHE A 111	27.058	37.461	47.107	1.00	50.42		C
ATOM	773	CD1	PHE A 111	28.283	36.907	46.791	1.00	49.93		C
ATOM	774	CD2	PHE A 111	26.781	38.729	46.658	1.00	48.60		C
ATOM	775	CE1	PHE A 111	29.205	37.609	46.044	1.00	49.18		C
ATOM	776	CE2	PHE A 111	27.701	39.429	45.904	1.00	47.91		C
ATOM	777	CZ	PHE A 111	28.910	38.869	45.601	1.00	47.42		C
ATOM	778	N	GLN A 112	25.376	36.279	51.576	1.00	56.74		N
ATOM	779	CA	GLN A 112	24.353	35.855	52.536	1.00	58.14		C
ATOM	780	C	GLN A 112	22.970	36.399	52.192	1.00	58.29		C
ATOM	781	O	GLN A 112	21.972	35.742	52.468	1.00	58.53		O
ATOM	782	CB	GLN A 112	24.730	36.282	53.961	1.00	58.65		C
ATOM	783	CG	GLN A 112	26.100	35.815	54.441	1.00	61.33		C
ATOM	784	CD	GLN A 112	26.213	34.307	54.467	1.00	64.34		C
ATOM	785	OE1	GLN A 112	25.483	33.622	53.750	1.00	66.46		O
ATOM	786	NE2	GLN A 112	27.133	33.784	55.281	1.00	66.00		N
ATOM	787	N	ASN A 113	22.919	37.581	51.580	1.00	58.45		N
ATOM	788	CA	ASN A 113	21.653	38.222	51.240	1.00	58.79		C
ATOM	789	C	ASN A 113	21.000	37.740	49.936	1.00	58.82		C
ATOM	790	O	ASN A 113	19.971	38.284	49.536	1.00	59.69		O
ATOM	791	CB	ASN A 113	21.813	39.759	51.171	1.00	58.81		C
ATOM	792	CG	ASN A 113	22.160	40.387	52.525	1.00	59.17		C
ATOM	793	OD1	ASN A 113	21.863	39.824	53.593	1.00	57.49		O
ATOM	794	ND2	ASN A 113	22.786	41.567	52.482	1.00	58.34		N
ATOM	795	N	PHE A 114	21.570	36.760	49.245	1.00	58.33		N
ATOM	796	CA	PHE A 114	20.930	36.306	48.015	1.00	57.84		C
ATOM	797	C	PHE A 114	19.922	35.220	48.334	1.00	57.57		C
ATOM	798	O	PHE A 114	20.264	34.208	48.953	1.00	57.24		O
ATOM	799	CB	PHE A 114	21.933	35.774	47.013	1.00	57.99		C
ATOM	800	CG	PHE A 114	21.289	35.126	45.822	1.00	58.28		C
ATOM	801	CD1	PHE A 114	20.642	35.897	44.867	1.00	58.11		C
ATOM	802	CD2	PHE A 114	21.300	33.744	45.674	1.00	58.56		C
ATOM	803	CE1	PHE A 114	20.028	35.312	43.781	1.00	58.29		C
ATOM	804	CE2	PHE A 114	20.687	33.149	44.580	1.00	59.09		C
ATOM	805	CZ	PHE A 114	20.050	33.937	43.630	1.00	58.80		C
ATOM	806	N	LYS A 115	18.686	35.429	47.899	1.00	57.18		N
ATOM	807	CA	LYS A 115	17.604	34.511	48.204	1.00	57.19		C
ATOM	808	C	LYS A 115	17.037	33.942	46.903	1.00	57.17		C
ATOM	809	O	LYS A 115	16.268	34.598	46.193	1.00	57.12		O
ATOM	810	CB	LYS A 115	16.524	35.234	49.016	1.00	57.33		C
ATOM	811	N	PRO A 116	17.384	32.699	46.610	1.00	56.97		N
ATOM	812	CA	PRO A 116	17.042	32.097	45.319	1.00	57.01		C
ATOM	813	C	PRO A 116	15.554	31.979	45.151	1.00	56.69		C

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ATOM    814  O   PRO A 116      14.864  31.676  46.103  1.00 57.03           O
ATOM    815  CB  PRO A 116      17.672  30.701  45.378  1.00 57.15           C
ATOM    816  CG  PRO A 116      18.474  30.658  46.662  1.00 57.53           C
ATOM    817  CD  PRO A 116      18.045  31.763  47.522  1.00 57.03           C
ATOM    818  N   ARG A 117      15.073  32.212  43.945  1.00 56.65           N
ATOM    819  CA  ARG A 117      13.663  32.087  43.656  1.00 56.39           C
ATOM    820  C   ARG A 117      13.335  30.639  43.332  1.00 56.16           C
ATOM    821  O   ARG A 117      12.160  30.272  43.279  1.00 56.65           O
ATOM    822  CB  ARG A 117      13.280  32.971  42.508  1.00 56.56           C
ATOM    823  N   SER A 118      14.350  29.810  43.110  1.00 55.25           N
ATOM    824  CA  SER A 118      14.083  28.393  42.878  1.00 55.12           C
ATOM    825  C   SER A 118      14.924  27.511  43.809  1.00 54.45           C
ATOM    826  O   SER A 118      16.022  27.895  44.174  1.00 54.64           O
ATOM    827  CB  SER A 118      14.322  28.029  41.415  1.00 54.89           C
ATOM    828  OG  SER A 118      15.672  28.196  41.087  1.00 55.13           O
ATOM    829  N   ASN A 119      14.381  26.362  44.211  1.00 53.66           N
ATOM    830  CA  ASN A 119      15.089  25.412  45.060  1.00 53.43           C
ATOM    831  C   ASN A 119      15.307  24.118  44.326  1.00 51.73           C
ATOM    832  O   ASN A 119      14.472  23.705  43.552  1.00 51.23           O
ATOM    833  CB  ASN A 119      14.277  25.063  46.311  1.00 54.32           C
ATOM    834  CG  ASN A 119      13.711  26.272  46.994  1.00 57.18           C
ATOM    835  OD1 ASN A 119      14.448  27.099  47.563  1.00 60.84           O
ATOM    836  ND2 ASN A 119      12.384  26.384  46.964  1.00 61.01           N
ATOM    837  N   ARG A 120      16.418  23.470  44.621  1.00 50.77           N
ATOM    838  CA  ARG A 120      16.772  22.182  44.049  1.00 49.89           C
ATOM    839  C   ARG A 120      16.388  21.062  44.999  1.00 49.87           C
ATOM    840  O   ARG A 120      16.620  21.150  46.206  1.00 50.40           O
ATOM    841  CB  ARG A 120      18.283  22.133  43.843  1.00 49.75           C
ATOM    842  CG  ARG A 120      18.799  20.901  43.144  1.00 47.86           C
ATOM    843  CD  ARG A 120      20.318  20.812  43.074  1.00 45.29           C
ATOM    844  NE  ARG A 120      20.972  21.240  44.301  1.00 43.79           N
ATOM    845  CZ  ARG A 120      21.316  20.432  45.314  1.00 43.05           C
ATOM    846  NH1 ARG A 120      21.053  19.126  45.277  1.00 40.07           N
ATOM    847  NH2 ARG A 120      21.921  20.942  46.379  1.00 41.03           N
ATOM    848  N   GLU A 121      15.801  20.010  44.451  1.00 49.51           N
ATOM    849  CA  GLU A 121      15.435  18.830  45.206  1.00 48.90           C
ATOM    850  C   GLU A 121      15.905  17.609  44.411  1.00 47.95           C
ATOM    851  O   GLU A 121      15.793  17.564  43.192  1.00 48.02           O
ATOM    852  CB  GLU A 121      13.922  18.782  45.461  1.00 49.38           C
ATOM    853  CG  GLU A 121      13.444  17.500  46.141  1.00 51.77           C
ATOM    854  CD  GLU A 121      12.185  17.695  46.961  1.00 54.65           C
ATOM    855  OE1 GLU A 121      12.312  18.258  48.073  1.00 58.68           O
ATOM    856  OE2 GLU A 121      11.087  17.284  46.512  1.00 55.59           O
ATOM    857  N   GLU A 122      16.455  16.622  45.104  1.00 47.05           N
ATOM    858  CA  GLU A 122      16.938  15.423  44.463  1.00 46.05           C
ATOM    859  C   GLU A 122      15.848  14.400  44.594  1.00 45.48           C
ATOM    860  O   GLU A 122      15.313  14.220  45.666  1.00 45.63           O
ATOM    861  CB  GLU A 122      18.200  14.940  45.158  1.00 45.67           C
ATOM    862  CG  GLU A 122      19.346  15.921  45.063  1.00 44.97           C
ATOM    863  CD  GLU A 122      19.789  16.154  43.623  1.00 45.49           C
ATOM    864  OE1 GLU A 122      19.985  15.144  42.902  1.00 44.79           O
ATOM    865  OE2 GLU A 122      19.925  17.337  43.207  1.00 42.47           O
ATOM    866  N   MET A 123      15.481  13.751  43.503  1.00 44.95           N
ATOM    867  CA  MET A 123      14.462  12.731  43.589  1.00 44.35           C
ATOM    868  C   MET A 123      14.657  11.712  42.503  1.00 43.59           C
ATOM    869  O   MET A 123      15.495  11.891  41.613  1.00 43.44           O
ATOM    870  CB  MET A 123      13.078  13.358  43.490  1.00 44.59           C
ATOM    871  CG  MET A 123      12.831  14.092  42.205  1.00 45.95           C
ATOM    872  SD  MET A 123      11.244  14.946  42.206  1.00 47.99           S
ATOM    873  CE  MET A 123      11.648  16.411  43.089  1.00 47.81           C
ATOM    874  N   LYS A 124      13.880  10.638  42.603  1.00 42.37           N
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ATOM    875  CA  LYS A 124      13.869   9.575  41.623  1.00 41.47           C
ATOM    876  C   LYS A 124      12.958  10.026  40.469  1.00 40.66           C
ATOM    877  O   LYS A 124      12.066  10.862  40.654  1.00 39.80           O
ATOM    878  CB  LYS A 124      13.354   8.267  42.250  1.00 41.45           C
ATOM    879  CG  LYS A 124      14.160   7.756  43.470  1.00 41.70           C
ATOM    880  CD  LYS A 124      15.574   7.301  43.076  1.00 42.20           C
ATOM    881  CE  LYS A 124      16.451   6.989  44.273  1.00 41.37           C
ATOM    882  NZ  LYS A 124      17.894   7.201  43.966  1.00 41.63           N
ATOM    883  N   PHE A 125      13.178   9.460  39.284  1.00 39.69           N
ATOM    884  CA  PHE A 125      12.463   9.889  38.101  1.00 38.95           C
ATOM    885  C   PHE A 125      10.981   9.729  38.257  1.00 38.85           C
ATOM    886  O   PHE A 125      10.217  10.613  37.890  1.00 37.81           O
ATOM    887  CB  PHE A 125      12.942   9.154  36.862  1.00 38.45           C
ATOM    888  CG  PHE A 125      12.618   9.871  35.610  1.00 39.49           C
ATOM    889  CD1 PHE A 125      13.471  10.840  35.118  1.00 40.78           C
ATOM    890  CD2 PHE A 125      11.428   9.655  34.967  1.00 40.81           C
ATOM    891  CE1 PHE A 125      13.181  11.530  33.992  1.00 40.48           C
ATOM    892  CE2 PHE A 125      11.123  10.353  33.825  1.00 41.39           C
ATOM    893  CZ  PHE A 125      12.008  11.300  33.335  1.00 41.11           C
ATOM    894  N   HIS A 126      10.575   8.602  38.835  1.00 39.49           N
ATOM    895  CA  HIS A 126       9.161   8.342  39.044  1.00 39.91           C
ATOM    896  C   HIS A 126       8.599   9.408  39.976  1.00 39.98           C
ATOM    897  O   HIS A 126       7.455   9.821  39.830  1.00 39.26           O
ATOM    898  CB  HIS A 126       8.906   6.899  39.552  1.00 40.45           C
ATOM    899  CG  HIS A 126       9.034   6.727  41.033  1.00 41.06           C
ATOM    900  ND1 HIS A 126       7.987   6.950  41.899  1.00 40.98           N
ATOM    901  CD2 HIS A 126      10.092   6.367  41.801  1.00 41.92           C
ATOM    902  CE1 HIS A 126       8.403   6.759  43.140  1.00 43.22           C
ATOM    903  NE2 HIS A 126       9.676   6.405  43.108  1.00 42.45           N
ATOM    904  N   GLU A 127       9.428   9.898  40.890  1.00 40.59           N
ATOM    905  CA  GLU A 127       8.975  10.919  41.824  1.00 41.56           C
ATOM    906  C   GLU A 127       8.749  12.213  41.062  1.00 41.66           C
ATOM    907  O   GLU A 127       7.774  12.941  41.294  1.00 41.64           O
ATOM    908  CB  GLU A 127       9.968  11.102  42.978  1.00 41.64           C
ATOM    909  CG  GLU A 127      10.149   9.839  43.811  1.00 43.10           C
ATOM    910  CD  GLU A 127      11.116  10.017  44.958  1.00 44.79           C
ATOM    911  OE1 GLU A 127      12.326  10.217  44.712  1.00 43.71           O
ATOM    912  OE2 GLU A 127      10.649   9.938  46.122  1.00 49.43           O
ATOM    913  N   PHE A 128       9.636  12.491  40.124  1.00 41.96           N
ATOM    914  CA  PHE A 128       9.504  13.705  39.337  1.00 41.99           C
ATOM    915  C   PHE A 128       8.213  13.612  38.538  1.00 42.56           C
ATOM    916  O   PHE A 128       7.400  14.537  38.507  1.00 41.93           O
ATOM    917  CB  PHE A 128      10.708  13.864  38.416  1.00 41.57           C
ATOM    918  CG  PHE A 128      10.470  14.795  37.244  1.00 41.38           C
ATOM    919  CD1 PHE A 128      10.199  16.136  37.449  1.00 39.65           C
ATOM    920  CD2 PHE A 128      10.537  14.330  35.950  1.00 39.22           C
ATOM    921  CE1 PHE A 128       9.980  16.975  36.399  1.00 40.36           C
ATOM    922  CE2 PHE A 128      10.329  15.191  34.888  1.00 41.57           C
ATOM    923  CZ  PHE A 128      10.044  16.510  35.112  1.00 40.14           C
ATOM    924  N   VAL A 129       7.999  12.463  37.921  1.00 43.85           N
ATOM    925  CA  VAL A 129       6.813  12.288  37.095  1.00 44.87           C
ATOM    926  C   VAL A 129       5.536  12.443  37.932  1.00 46.07           C
ATOM    927  O   VAL A 129       4.574  13.093  37.505  1.00 45.32           O
ATOM    928  CB  VAL A 129       6.798  10.920  36.425  1.00 44.99           C
ATOM    929  CG1 VAL A 129       5.496  10.725  35.631  1.00 44.81           C
ATOM    930  CG2 VAL A 129       8.030  10.718  35.550  1.00 43.96           C
ATOM    931  N   GLU A 130       5.553  11.854  39.128  1.00 47.64           N
ATOM    932  CA  GLU A 130       4.415  11.932  40.037  1.00 49.12           C
ATOM    933  C   GLU A 130       4.136  13.390  40.384  1.00 49.48           C
ATOM    934  O   GLU A 130       3.003  13.846  40.250  1.00 48.66           O
ATOM    935  CB  GLU A 130       4.654  11.079  41.296  1.00 49.63           C
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ATOM    936  CG  GLU A 130       4.534   9.576  41.062  1.00 50.81           C
ATOM    937  CD  GLU A 130       5.257   8.747  42.117  1.00 53.77           C
ATOM    938  OE1 GLU A 130       5.566   9.295  43.204  1.00 55.27           O
ATOM    939  OE2 GLU A 130       5.518   7.543  41.856  1.00 54.73           O
ATOM    940  N   LYS A 131       5.170  14.121  40.798  1.00 50.56           N
ATOM    941  CA  LYS A 131       5.010  15.547  41.082  1.00 51.84           C
ATOM    942  C   LYS A 131       4.385  16.276  39.886  1.00 52.55           C
ATOM    943  O   LYS A 131       3.482  17.070  40.061  1.00 52.15           O
ATOM    944  CB  LYS A 131       6.340  16.209  41.438  1.00 52.23           C
ATOM    945  CG  LYS A 131       6.554  16.568  42.907  1.00 53.75           C
ATOM    946  CD  LYS A 131       7.249  17.944  43.054  1.00 56.27           C
ATOM    947  CE  LYS A 131       7.879  18.168  44.448  1.00 58.66           C
ATOM    948  NZ  LYS A 131       8.247  19.628  44.725  1.00 59.31           N
ATOM    949  N   LEU A 132       4.845  16.014  38.667  1.00 53.84           N
ATOM    950  CA  LEU A 132       4.247  16.691  37.513  1.00 55.23           C
ATOM    951  C   LEU A 132       2.762  16.408  37.407  1.00 55.96           C
ATOM    952  O   LEU A 132       1.973  17.292  37.063  1.00 55.69           O
ATOM    953  CB  LEU A 132       4.906  16.278  36.206  1.00 55.45           C
ATOM    954  CG  LEU A 132       6.301  16.811  35.966  1.00 56.60           C
ATOM    955  CD1 LEU A 132       6.785  16.291  34.646  1.00 57.60           C
ATOM    956  CD2 LEU A 132       6.303  18.327  35.966  1.00 57.89           C
ATOM    957  N   GLN A 133       2.397  15.157  37.669  1.00 57.19           N
ATOM    958  CA  GLN A 133       0.998  14.739  37.663  1.00 58.15           C
ATOM    959  C   GLN A 133       0.172  15.450  38.751  1.00 58.99           C
ATOM    960  O   GLN A 133      -0.915  15.950  38.470  1.00 58.73           O
ATOM    961  CB  GLN A 133       0.897  13.230  37.824  1.00 58.03           C
ATOM    962  N   ASP A 134       0.678  15.510  39.981  1.00 60.11           N
ATOM    963  CA  ASP A 134      -0.081  16.145  41.063  1.00 61.49           C
ATOM    964  C   ASP A 134      -0.362  17.629  40.783  1.00 61.55           C
ATOM    965  O   ASP A 134      -1.427  18.149  41.104  1.00 61.55           O
ATOM    966  CB  ASP A 134       0.621  15.985  42.417  1.00 61.99           C
ATOM    967  CG  ASP A 134      -0.253  16.454  43.587  1.00 64.74           C
ATOM    968  OD1 ASP A 134      -1.310  17.082  43.346  1.00 67.52           O
ATOM    969  OD2 ASP A 134       0.022  16.237  44.791  1.00 69.05           O
ATOM    970  N   ILE A 135       0.594  18.312  40.179  1.00 61.80           N
ATOM    971  CA  ILE A 135       0.402  19.706  39.860  1.00 62.08           C
ATOM    972  C   ILE A 135      -0.700  19.856  38.823  1.00 62.29           C
ATOM    973  O   ILE A 135      -1.639  20.620  39.013  1.00 61.91           O
ATOM    974  CB  ILE A 135       1.711  20.301  39.366  1.00 62.21           C
ATOM    975  CG1 ILE A 135       2.705  20.391  40.528  1.00 62.47           C
ATOM    976  CG2 ILE A 135       1.478  21.670  38.783  1.00 62.19           C
ATOM    977  CD1 ILE A 135       4.157  20.437  40.100  1.00 62.96           C
ATOM    978  N   GLN A 136      -0.593  19.112  37.733  1.00 62.99           N
ATOM    979  CA  GLN A 136      -1.585  19.184  36.674  1.00 63.71           C
ATOM    980  C   GLN A 136      -2.977  18.992  37.259  1.00 64.44           C
ATOM    981  O   GLN A 136      -3.844  19.856  37.123  1.00 64.73           O
ATOM    982  CB  GLN A 136      -1.305  18.136  35.619  1.00 63.77           C
ATOM    983  N   GLN A 137      -3.170  17.871  37.948  1.00 65.12           N
ATOM    984  CA  GLN A 137      -4.472  17.509  38.497  1.00 65.60           C
ATOM    985  C   GLN A 137      -4.989  18.540  39.477  1.00 65.70           C
ATOM    986  O   GLN A 137      -6.175  18.871  39.447  1.00 66.17           O
ATOM    987  CB  GLN A 137      -4.421  16.117  39.161  1.00 65.72           C
ATOM    988  N   ARG A 138      -4.115  19.056  40.336  1.00 65.61           N
ATOM    989  CA  ARG A 138      -4.549  20.011  41.358  1.00 65.53           C
ATOM    990  C   ARG A 138      -4.578  21.441  40.823  1.00 64.96           C
ATOM    991  O   ARG A 138      -4.748  22.392  41.589  1.00 64.93           O
ATOM    992  CB  ARG A 138      -3.670  19.912  42.613  1.00 65.65           C
ATOM    993  CG  ARG A 138      -2.375  20.712  42.588  1.00 67.10           C
ATOM    994  CD  ARG A 138      -1.482  20.352  43.745  1.00 68.96           C
ATOM    995  NE  ARG A 138      -0.372  21.270  43.957  1.00 69.79           N
ATOM    996  CZ  ARG A 138       0.905  20.919  43.880  1.00 71.69           C
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ATOM    997  NH1 ARG A 138       1.238  19.674  43.569  1.00 72.88           N
ATOM    998  NH2 ARG A 138       1.862  21.811  44.106  1.00 72.52           N
ATOM    999  N   GLY A 139      -4.426  21.593  39.508  1.00 64.31           N
ATOM   1000  CA  GLY A 139      -4.370  22.912  38.897  1.00 63.53           C
ATOM   1001  C   GLY A 139      -3.401  23.874  39.578  1.00 62.69           C
ATOM   1002  O   GLY A 139      -3.631  25.080  39.570  1.00 62.92           O
ATOM   1003  N   GLY A 140      -2.312  23.357  40.148  1.00 61.58           N
ATOM   1004  CA  GLY A 140      -1.345  24.183  40.861  1.00 60.52           C
ATOM   1005  C   GLY A 140      -0.539  25.103  39.958  1.00 59.56           C
ATOM   1006  O   GLY A 140      -0.449  24.867  38.748  1.00 59.45           O
ATOM   1007  N   GLU A 141       0.041  26.159  40.530  1.00 58.05           N
ATOM   1008  CA  GLU A 141       0.859  27.090  39.748  1.00 56.92           C
ATOM   1009  C   GLU A 141       2.366  26.751  39.832  1.00 54.97           C
ATOM   1010  O   GLU A 141       3.189  27.326  39.113  1.00 54.51           O
ATOM   1011  CB  GLU A 141       0.602  28.547  40.177  1.00 57.45           C
ATOM   1012  CG  GLU A 141      -0.707  29.171  39.680  1.00 59.67           C
ATOM   1013  CD  GLU A 141      -0.851  29.193  38.154  1.00 63.48           C
ATOM   1014  OE1 GLU A 141       0.179  29.107  37.436  1.00 65.30           O
ATOM   1015  OE2 GLU A 141      -2.007  29.298  37.664  1.00 66.13           O
ATOM   1016  N   GLU A 142       2.720  25.814  40.708  1.00 52.62           N
ATOM   1017  CA  GLU A 142       4.106  25.398  40.862  1.00 50.91           C
ATOM   1018  C   GLU A 142       4.679  24.958  39.516  1.00 48.93           C
ATOM   1019  O   GLU A 142       3.960  24.477  38.641  1.00 48.64           O
ATOM   1020  CB  GLU A 142       4.225  24.263  41.886  1.00 51.00           C
ATOM   1021  CG  GLU A 142       5.656  24.005  42.352  1.00 51.76           C
ATOM   1022  CD  GLU A 142       5.814  22.811  43.282  1.00 52.64           C
ATOM   1023  OE1 GLU A 142       4.871  22.009  43.447  1.00 55.52           O
ATOM   1024  OE2 GLU A 142       6.911  22.667  43.855  1.00 53.97           O
ATOM   1025  N   ARG A 143       5.979  25.139  39.356  1.00 46.58           N
ATOM   1026  CA  ARG A 143       6.652  24.751  38.133  1.00 45.12           C
ATOM   1027  C   ARG A 143       7.900  23.960  38.425  1.00 43.39           C
ATOM   1028  O   ARG A 143       8.616  24.242  39.387  1.00 43.58           O
ATOM   1029  CB  ARG A 143       7.069  25.983  37.360  1.00 45.52           C
ATOM   1030  CG  ARG A 143       5.943  26.747  36.729  1.00 45.38           C
ATOM   1031  CD  ARG A 143       6.488  27.899  35.969  1.00 46.06           C
ATOM   1032  NE  ARG A 143       5.473  28.649  35.252  1.00 45.33           N
ATOM   1033  CZ  ARG A 143       5.194  28.491  33.984  1.00 42.93           C
ATOM   1034  NH1 ARG A 143       5.836  27.573  33.253  1.00 41.86           N
ATOM   1035  NH2 ARG A 143       4.257  29.252  33.452  1.00 43.53           N
ATOM   1036  N   LEU A 144       8.182  22.991  37.578  1.00 41.08           N
ATOM   1037  CA  LEU A 144       9.337  22.163  37.784  1.00 39.63           C
ATOM   1038  C   LEU A 144      10.213  22.166  36.568  1.00 37.88           C
ATOM   1039  O   LEU A 144       9.734  22.249  35.444  1.00 36.26           O
ATOM   1040  CB  LEU A 144       8.889  20.727  38.018  1.00 40.26           C
ATOM   1041  CG  LEU A 144       7.974  20.529  39.223  1.00 41.73           C
ATOM   1042  CD1 LEU A 144       7.639  19.036  39.392  1.00 42.57           C
ATOM   1043  CD2 LEU A 144       8.585  21.102  40.503  1.00 41.42           C
ATOM   1044  N   TYR A 145      11.507  22.033  36.800  1.00 36.36           N
ATOM   1045  CA  TYR A 145      12.434  21.892  35.703  1.00 35.24           C
ATOM   1046  C   TYR A 145      13.485  20.862  36.107  1.00 34.89           C
ATOM   1047  O   TYR A 145      14.264  21.098  37.013  1.00 33.74           O
ATOM   1048  CB  TYR A 145      13.071  23.243  35.352  1.00 35.01           C
ATOM   1049  CG  TYR A 145      13.524  23.408  33.901  1.00 32.68           C
ATOM   1050  CD1 TYR A 145      13.817  22.324  33.099  1.00 30.20           C
ATOM   1051  CD2 TYR A 145      13.689  24.666  33.355  1.00 31.53           C
ATOM   1052  CE1 TYR A 145      14.237  22.493  31.762  1.00 29.87           C
ATOM   1053  CE2 TYR A 145      14.110  24.852  32.031  1.00 29.82           C
ATOM   1054  CZ  TYR A 145      14.373  23.765  31.228  1.00 30.06           C
ATOM   1055  OH  TYR A 145      14.789  23.953  29.897  1.00 28.17           O
ATOM   1056  N   LEU A 146      13.479  19.708  35.446  1.00 34.87           N
ATOM   1057  CA  LEU A 146      14.511  18.703  35.690  1.00 35.40           C
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ATOM   1058  C   LEU A 146      15.753  18.977  34.864  1.00 35.24           C
ATOM   1059  O   LEU A 146      15.665  19.211  33.653  1.00 34.63           O
ATOM   1060  CB  LEU A 146      14.008  17.312  35.358  1.00 35.79           C
ATOM   1061  CG  LEU A 146      14.998  16.157  35.614  1.00 37.21           C
ATOM   1062  CD1 LEU A 146      14.221  14.918  35.969  1.00 36.28           C
ATOM   1063  CD2 LEU A 146      15.907  15.872  34.399  1.00 38.78           C
ATOM   1064  N   GLN A 147      16.907  18.883  35.515  1.00 34.82           N
ATOM   1065  CA  GLN A 147      18.179  19.206  34.884  1.00 35.00           C
ATOM   1066  C   GLN A 147      19.222  18.341  35.525  1.00 34.90           C
ATOM   1067  O   GLN A 147      19.626  18.568  36.664  1.00 35.65           O
ATOM   1068  CB  GLN A 147      18.526  20.679  35.078  1.00 35.09           C
ATOM   1069  CG  GLN A 147      17.392  21.636  34.720  1.00 35.83           C
ATOM   1070  CD  GLN A 147      17.848  23.085  34.706  1.00 36.90           C
ATOM   1071  OE1 GLN A 147      17.091  23.961  34.302  1.00 39.61           O
ATOM   1072  NE2 GLN A 147      19.088  23.336  35.126  1.00 35.05           N
ATOM   1073  N   GLN A 148      19.673  17.358  34.773  1.00 35.00           N
ATOM   1074  CA  GLN A 148      20.492  16.300  35.294  1.00 34.89           C
ATOM   1075  C   GLN A 148      21.376  15.709  34.255  1.00 35.35           C
ATOM   1076  O   GLN A 148      20.941  15.318  33.181  1.00 35.25           O
ATOM   1077  CB  GLN A 148      19.580  15.186  35.791  1.00 35.27           C
ATOM   1078  CG  GLN A 148      20.335  13.914  36.269  1.00 35.11           C
ATOM   1079  CD  GLN A 148      21.317  14.230  37.389  1.00 34.12           C
ATOM   1080  OE1 GLN A 148      20.998  15.033  38.277  1.00 33.18           O
ATOM   1081  NE2 GLN A 148      22.521  13.652  37.324  1.00 30.47           N
ATOM   1082  N   THR A 149      22.631  15.641  34.600  1.00 36.56           N
ATOM   1083  CA  THR A 149      23.648  15.088  33.754  1.00 38.26           C
ATOM   1084  C   THR A 149      23.394  13.609  33.615  1.00 38.31           C
ATOM   1085  O   THR A 149      23.068  12.956  34.597  1.00 38.70           O
ATOM   1086  CB  THR A 149      24.992  15.362  34.463  1.00 38.76           C
ATOM   1087  OG1 THR A 149      25.290  16.747  34.277  1.00 41.68           O
ATOM   1088  CG2 THR A 149      26.139  14.710  33.797  1.00 40.77           C
ATOM   1089  N   LEU A 150      23.516  13.087  32.399  1.00 38.77           N
ATOM   1090  CA  LEU A 150      23.373  11.664  32.149  1.00 39.27           C
ATOM   1091  C   LEU A 150      24.604  10.898  32.679  1.00 39.85           C
ATOM   1092  O   LEU A 150      25.733  11.207  32.321  1.00 39.99           O
ATOM   1093  CB  LEU A 150      23.220  11.402  30.660  1.00 39.15           C
ATOM   1094  CG  LEU A 150      21.943  11.860  29.962  1.00 40.72           C
ATOM   1095  CD1 LEU A 150      22.058  11.673  28.459  1.00 41.91           C
ATOM   1096  CD2 LEU A 150      20.764  11.106  30.458  1.00 41.30           C
ATOM   1097  N   ASN A 151      24.392   9.898  33.526  1.00 40.26           N
ATOM   1098  CA  ASN A 151      25.510   9.124  34.062  1.00 40.90           C
ATOM   1099  C   ASN A 151      25.291   7.607  34.041  1.00 41.95           C
ATOM   1100  O   ASN A 151      24.327   7.098  33.441  1.00 41.72           O
ATOM   1101  CB  ASN A 151      25.778   9.575  35.489  1.00 40.77           C
ATOM   1102  CG  ASN A 151      24.564   9.439  36.349  1.00 39.85           C
ATOM   1103  OD1 ASN A 151      24.002   8.340  36.483  1.00 37.92           O
ATOM   1104  ND2 ASN A 151      24.107  10.558  36.897  1.00 36.89           N
ATOM   1105  N   ASP A 152      26.176   6.894  34.735  1.00 42.89           N
ATOM   1106  CA  ASP A 152      26.175   5.431  34.756  1.00 43.75           C
ATOM   1107  C   ASP A 152      24.950   4.768  35.272  1.00 43.37           C
ATOM   1108  O   ASP A 152      24.787   3.581  35.052  1.00 43.66           O
ATOM   1109  CB  ASP A 152      27.256   4.895  35.695  1.00 44.77           C
ATOM   1110  CG  ASP A 152      28.539   5.555  35.500  1.00 48.22           C
ATOM   1111  OD1 ASP A 152      28.835   5.881  34.325  1.00 57.47           O
ATOM   1112  OD2 ASP A 152      29.291   5.826  36.437  1.00 51.28           O
ATOM   1113  N   THR A 153      24.119   5.466  36.025  1.00 43.41           N
ATOM   1114  CA  THR A 153      22.983   4.783  36.631  1.00 43.38           C
ATOM   1115  C   THR A 153      21.820   4.605  35.676  1.00 42.99           C
ATOM   1116  O   THR A 153      20.866   3.945  36.012  1.00 43.44           O
ATOM   1117  CB  THR A 153      22.489   5.507  37.875  1.00 43.44           C
ATOM   1118  OG1 THR A 153      21.749   6.678  37.499  1.00 46.09           O
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ATOM   1119  CG2 THR A 153      23.651   6.008  38.725  1.00 42.99           C
ATOM   1120  N   VAL A 154      21.874   5.185  34.491  1.00 42.88           N
ATOM   1121  CA  VAL A 154      20.757   5.015  33.572  1.00 42.71           C
ATOM   1122  C   VAL A 154      20.700   3.563  33.177  1.00 42.42           C
ATOM   1123  O   VAL A 154      21.729   2.892  33.193  1.00 42.39           O
ATOM   1124  CB  VAL A 154      20.889   5.875  32.300  1.00 42.67           C
ATOM   1125  CG1 VAL A 154      20.857   7.347  32.660  1.00 43.04           C
ATOM   1126  CG2 VAL A 154      22.159   5.516  31.538  1.00 42.56           C
ATOM   1127  N   GLY A 155      19.502   3.097  32.814  1.00 42.11           N
ATOM   1128  CA  GLY A 155      19.261   1.725  32.411  1.00 41.52           C
ATOM   1129  C   GLY A 155      19.642   1.317  30.992  1.00 41.85           C
ATOM   1130  O   GLY A 155      19.977   2.140  30.123  1.00 41.87           O
ATOM   1131  N   ARG A 156      19.512   0.012  30.750  1.00 41.36           N
ATOM   1132  CA  ARG A 156      19.961  -0.623  29.511  1.00 40.88           C
ATOM   1133  C   ARG A 156      19.397  -0.005  28.247  1.00 40.03           C
ATOM   1134  O   ARG A 156      20.135   0.304  27.339  1.00 40.36           O
ATOM   1135  CB  ARG A 156      19.670  -2.148  29.555  1.00 40.77           C
ATOM   1136  N   LYS A 157      18.090   0.146  28.181  1.00 39.16           N
ATOM   1137  CA  LYS A 157      17.503   0.697  26.990  1.00 38.81           C
ATOM   1138  C   LYS A 157      18.078   2.114  26.738  1.00 38.38           C
ATOM   1139  O   LYS A 157      18.363   2.464  25.594  1.00 37.97           O
ATOM   1140  CB  LYS A 157      15.968   0.714  27.090  1.00 39.20           C
ATOM   1141  CG  LYS A 157      15.266  -0.575  26.642  1.00 36.80           C
ATOM   1142  N   ILE A 158      18.268   2.909  27.791  1.00 37.56           N
ATOM   1143  CA  ILE A 158      18.759   4.287  27.606  1.00 37.28           C
ATOM   1144  C   ILE A 158      20.180   4.281  27.126  1.00 37.22           C
ATOM   1145  O   ILE A 158      20.582   5.120  26.302  1.00 37.08           O
ATOM   1146  CB  ILE A 158      18.692   5.101  28.882  1.00 36.72           C
ATOM   1147  CG1 ILE A 158      17.257   5.220  29.356  1.00 37.17           C
ATOM   1148  CG2 ILE A 158      19.254   6.465  28.646  1.00 36.48           C
ATOM   1149  CD1 ILE A 158      16.359   5.900  28.409  1.00 38.28           C
ATOM   1150  N   VAL A 159      20.934   3.335  27.655  1.00 36.85           N
ATOM   1151  CA  VAL A 159      22.319   3.177  27.284  1.00 37.05           C
ATOM   1152  C   VAL A 159      22.349   2.864  25.785  1.00 36.45           C
ATOM   1153  O   VAL A 159      23.165   3.410  25.057  1.00 35.81           O
ATOM   1154  CB  VAL A 159      22.988   2.042  28.096  1.00 37.36           C
ATOM   1155  CG1 VAL A 159      24.248   1.567  27.427  1.00 38.43           C
ATOM   1156  CG2 VAL A 159      23.302   2.499  29.494  1.00 37.81           C
ATOM   1157  N   MET A 160      21.453   1.990  25.339  1.00 35.84           N
ATOM   1158  CA  MET A 160      21.369   1.637  23.910  1.00 36.30           C
ATOM   1159  C   MET A 160      21.064   2.883  23.074  1.00 34.46           C
ATOM   1160  O   MET A 160      21.715   3.142  22.083  1.00 33.88           O
ATOM   1161  CB  MET A 160      20.294   0.576  23.656  1.00 36.83           C
ATOM   1162  CG  MET A 160      20.654  -0.763  24.225  1.00 39.89           C
ATOM   1163  SD  MET A 160      21.916  -1.579  23.249  1.00 46.87           S
ATOM   1164  CE  MET A 160      21.005  -1.940  21.669  1.00 47.08           C
ATOM   1165  N   ASP A 161      20.078   3.648  23.505  1.00 33.13           N
ATOM   1166  CA  ASP A 161      19.732   4.901  22.857  1.00 32.80           C
ATOM   1167  C   ASP A 161      20.931   5.877  22.747  1.00 31.75           C
ATOM   1168  O   ASP A 161      21.209   6.425  21.691  1.00 31.06           O
ATOM   1169  CB  ASP A 161      18.598   5.553  23.631  1.00 32.93           C
ATOM   1170  CG  ASP A 161      17.278   4.822  23.473  1.00 33.90           C
ATOM   1171  OD1 ASP A 161      17.148   3.961  22.568  1.00 28.71           O
ATOM   1172  OD2 ASP A 161      16.301   5.064  24.226  1.00 38.17           O
ATOM   1173  N   PHE A 162      21.646   6.052  23.849  1.00 31.05           N
ATOM   1174  CA  PHE A 162      22.763   6.968  23.930  1.00 30.52           C
ATOM   1175  C   PHE A 162      23.835   6.553  22.979  1.00 28.89           C
ATOM   1176  O   PHE A 162      24.477   7.369  22.371  1.00 29.43           O
ATOM   1177  CB  PHE A 162      23.311   6.948  25.375  1.00 30.80           C
ATOM   1178  CG  PHE A 162      24.493   7.839  25.617  1.00 31.81           C
ATOM   1179  CD1 PHE A 162      24.325   9.179  25.904  1.00 35.81           C
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ATOM   1180  CD2 PHE A 162      25.770   7.322  25.653  1.00 35.00           C
ATOM   1181  CE1 PHE A 162      25.430  10.000  26.197  1.00 35.94           C
ATOM   1182  CE2 PHE A 162      26.887   8.143  25.941  1.00 35.90           C
ATOM   1183  CZ  PHE A 162      26.711   9.467  26.202  1.00 35.61           C
ATOM   1184  N   LEU A 163      24.067   5.271  22.914  1.00 28.19           N
ATOM   1185  CA  LEU A 163      25.103   4.728  22.065  1.00 28.08           C
ATOM   1186  C   LEU A 163      24.735   4.923  20.590  1.00 27.13           C
ATOM   1187  O   LEU A 163      25.603   4.973  19.751  1.00 26.83           O
ATOM   1188  CB  LEU A 163      25.306   3.244  22.368  1.00 27.86           C
ATOM   1189  CG  LEU A 163      26.137   2.987  23.604  1.00 28.73           C
ATOM   1190  CD1 LEU A 163      26.180   1.512  23.849  1.00 29.77           C
ATOM   1191  CD2 LEU A 163      27.559   3.522  23.464  1.00 29.70           C
ATOM   1192  N   GLY A 164      23.448   4.998  20.303  1.00 26.50           N
ATOM   1193  CA  GLY A 164      22.956   5.244  18.959  1.00 27.37           C
ATOM   1194  C   GLY A 164      22.949   6.712  18.493  1.00 27.88           C
ATOM   1195  O   GLY A 164      22.483   6.988  17.365  1.00 28.42           O
ATOM   1196  N   PHE A 165      23.420   7.635  19.344  1.00 26.36           N
ATOM   1197  CA  PHE A 165      23.530   9.011  18.958  1.00 26.57           C
ATOM   1198  C   PHE A 165      24.540   9.052  17.820  1.00 26.12           C
ATOM   1199  O   PHE A 165      25.381   8.202  17.756  1.00 24.23           O
ATOM   1200  CB  PHE A 165      24.024   9.867  20.153  1.00 26.86           C
ATOM   1201  CG  PHE A 165      22.979  10.070  21.252  1.00 27.80           C
ATOM   1202  CD1 PHE A 165      21.701   9.533  21.144  1.00 27.80           C
ATOM   1203  CD2 PHE A 165      23.274  10.820  22.367  1.00 28.58           C
ATOM   1204  CE1 PHE A 165      20.765   9.744  22.117  1.00 26.89           C
ATOM   1205  CE2 PHE A 165      22.329  11.042  23.364  1.00 28.45           C
ATOM   1206  CZ  PHE A 165      21.086  10.504  23.243  1.00 28.78           C
ATOM   1207  N   ASN A 166      24.496  10.077  16.963  1.00 26.15           N
ATOM   1208  CA  ASN A 166      25.441  10.165  15.837  1.00 25.91           C
ATOM   1209  C   ASN A 166      26.861  10.675  16.226  1.00 26.12           C
ATOM   1210  O   ASN A 166      27.288  11.793  15.894  1.00 25.48           O
ATOM   1211  CB  ASN A 166      24.834  11.004  14.705  1.00 25.51           C
ATOM   1212  CG  ASN A 166      25.634  10.916  13.431  1.00 24.43           C
ATOM   1213  OD1 ASN A 166      26.751  10.323  13.429  1.00 23.40           O
ATOM   1214  ND2 ASN A 166      25.078  11.479  12.318  1.00 17.22           N
ATOM   1215  N   TRP A 167      27.566   9.817  16.940  1.00 26.11           N
ATOM   1216  CA  TRP A 167      28.907  10.080  17.401  1.00 26.58           C
ATOM   1217  C   TRP A 167      29.817  10.336  16.206  1.00 27.07           C
ATOM   1218  O   TRP A 167      30.737  11.139  16.252  1.00 26.92           O
ATOM   1219  CB  TRP A 167      29.389   8.860  18.249  1.00 26.02           C
ATOM   1220  CG  TRP A 167      28.537   8.750  19.498  1.00 27.18           C
ATOM   1221  CD1 TRP A 167      27.620   7.784  19.809  1.00 28.08           C
ATOM   1222  CD2 TRP A 167      28.452   9.719  20.550  1.00 27.33           C
ATOM   1223  NE1 TRP A 167      27.013   8.071  21.013  1.00 27.87           N
ATOM   1224  CE2 TRP A 167      27.503   9.254  21.481  1.00 26.46           C
ATOM   1225  CE3 TRP A 167      29.103  10.929  20.804  1.00 26.22           C
ATOM   1226  CZ2 TRP A 167      27.180   9.951  22.622  1.00 28.27           C
ATOM   1227  CZ3 TRP A 167      28.784  11.615  21.920  1.00 27.56           C
ATOM   1228  CH2 TRP A 167      27.821  11.128  22.833  1.00 28.04           C
ATOM   1229  N   ASN A 168      29.585   9.632  15.114  1.00 27.98           N
ATOM   1230  CA  ASN A 168      30.430   9.833  13.959  1.00 28.32           C
ATOM   1231  C   ASN A 168      30.470  11.319  13.573  1.00 29.00           C
ATOM   1232  O   ASN A 168      31.547  11.894  13.390  1.00 30.41           O
ATOM   1233  CB  ASN A 168      29.909   9.018  12.812  1.00 28.58           C
ATOM   1234  CG  ASN A 168      30.758   9.145  11.570  1.00 29.28           C
ATOM   1235  OD1 ASN A 168      31.899   8.739  11.579  1.00 30.27           O
ATOM   1236  ND2 ASN A 168      30.186   9.677  10.487  1.00 28.46           N
ATOM   1237  N   TRP A 169      29.301  11.942  13.462  1.00 27.93           N
ATOM   1238  CA  TRP A 169      29.228  13.343  13.074  1.00 27.25           C
ATOM   1239  C   TRP A 169      29.726  14.266  14.179  1.00 27.20           C
ATOM   1240  O   TRP A 169      30.444  15.224  13.925  1.00 26.30           O
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ATOM   1241  CB  TRP A 169      27.777  13.734  12.691  1.00 26.63           C
ATOM   1242  CG  TRP A 169      27.615  15.168  12.355  1.00 25.15           C
ATOM   1243  CD1 TRP A 169      27.804  15.745  11.130  1.00 24.89           C
ATOM   1244  CD2 TRP A 169      27.261  16.229  13.237  1.00 23.66           C
ATOM   1245  NE1 TRP A 169      27.591  17.095  11.195  1.00 22.98           N
ATOM   1246  CE2 TRP A 169      27.257  17.427  12.476  1.00 25.81           C
ATOM   1247  CE3 TRP A 169      26.927  16.292  14.576  1.00 24.44           C
ATOM   1248  CZ2 TRP A 169      26.933  18.680  13.018  1.00 26.96           C
ATOM   1249  CZ3 TRP A 169      26.624  17.525  15.127  1.00 28.68           C
ATOM   1250  CH2 TRP A 169      26.611  18.710  14.336  1.00 28.73           C
ATOM   1251  N   ILE A 170      29.323  14.026  15.409  1.00 27.29           N
ATOM   1252  CA  ILE A 170      29.725  14.985  16.406  1.00 28.36           C
ATOM   1253  C   ILE A 170      31.252  14.874  16.686  1.00 29.15           C
ATOM   1254  O   ILE A 170      31.920  15.875  16.866  1.00 29.81           O
ATOM   1255  CB  ILE A 170      28.814  14.947  17.672  1.00 28.10           C
ATOM   1256  CG1 ILE A 170      28.882  16.277  18.386  1.00 26.98           C
ATOM   1257  CG2 ILE A 170      29.198  13.838  18.593  1.00 27.15           C
ATOM   1258  CD1 ILE A 170      27.855  16.400  19.530  1.00 28.88           C
ATOM   1259  N   ASN A 171      31.809  13.679  16.653  1.00 29.35           N
ATOM   1260  CA  ASN A 171      33.261  13.535  16.843  1.00 30.18           C
ATOM   1261  C   ASN A 171      34.060  14.259  15.752  1.00 30.67           C
ATOM   1262  O   ASN A 171      35.117  14.823  16.036  1.00 31.32           O
ATOM   1263  CB  ASN A 171      33.705  12.058  16.861  1.00 29.80           C
ATOM   1264  CG  ASN A 171      33.210  11.274  18.094  1.00 30.17           C
ATOM   1265  OD1 ASN A 171      32.682  11.821  19.051  1.00 30.65           O
ATOM   1266  ND2 ASN A 171      33.372   9.968  18.036  1.00 31.44           N
ATOM   1267  N   LYS A 172      33.591  14.231  14.509  1.00 30.94           N
ATOM   1268  CA  LYS A 172      34.297  14.960  13.461  1.00 32.29           C
ATOM   1269  C   LYS A 172      34.211  16.473  13.755  1.00 31.79           C
ATOM   1270  O   LYS A 172      35.128  17.234  13.482  1.00 32.06           O
ATOM   1271  CB  LYS A 172      33.754  14.646  12.055  1.00 32.47           C
ATOM   1272  CG  LYS A 172      34.168  13.298  11.539  1.00 36.36           C
ATOM   1273  CD  LYS A 172      33.697  13.012  10.072  1.00 41.05           C
ATOM   1274  CE  LYS A 172      34.338  11.721   9.543  1.00 44.14           C
ATOM   1275  NZ  LYS A 172      34.321  11.571   8.024  1.00 49.11           N
ATOM   1276  N   GLN A 173      33.099  16.900  14.316  1.00 31.59           N
ATOM   1277  CA  GLN A 173      32.931  18.299  14.616  1.00 31.80           C
ATOM   1278  C   GLN A 173      33.965  18.680  15.681  1.00 32.04           C
ATOM   1279  O   GLN A 173      34.670  19.687  15.534  1.00 32.67           O
ATOM   1280  CB  GLN A 173      31.522  18.581  15.117  1.00 31.45           C
ATOM   1281  CG  GLN A 173      30.477  18.685  14.067  1.00 31.68           C
ATOM   1282  CD  GLN A 173      30.782  19.751  13.050  1.00 32.76           C
ATOM   1283  OE1 GLN A 173      31.198  20.852  13.405  1.00 36.55           O
ATOM   1284  NE2 GLN A 173      30.583  19.440  11.790  1.00 32.28           N
ATOM   1285  N   GLN A 174      34.044  17.871  16.735  1.00 31.40           N
ATOM   1286  CA  GLN A 174      34.999  18.074  17.811  1.00 31.28           C
ATOM   1287  C   GLN A 174      36.437  18.098  17.244  1.00 30.94           C
ATOM   1288  O   GLN A 174      37.253  18.939  17.602  1.00 30.50           O
ATOM   1289  CB  GLN A 174      34.808  16.971  18.861  1.00 31.20           C
ATOM   1290  CG  GLN A 174      35.859  16.917  19.935  1.00 31.64           C
ATOM   1291  CD  GLN A 174      35.704  15.717  20.836  1.00 31.52           C
ATOM   1292  OE1 GLN A 174      35.313  14.661  20.382  1.00 35.10           O
ATOM   1293  NE2 GLN A 174      36.007  15.880  22.121  1.00 32.92           N
ATOM   1294  N   GLY A 175      36.732  17.202  16.317  1.00 30.54           N
ATOM   1295  CA  GLY A 175      38.048  17.169  15.721  1.00 30.38           C
ATOM   1296  C   GLY A 175      38.288  18.339  14.783  1.00 31.21           C
ATOM   1297  O   GLY A 175      39.339  18.974  14.812  1.00 31.31           O
ATOM   1298  N   LYS A 176      37.317  18.661  13.946  1.00 31.67           N
ATOM   1299  CA  LYS A 176      37.524  19.767  13.029  1.00 32.84           C
ATOM   1300  C   LYS A 176      37.758  21.127  13.749  1.00 32.90           C
ATOM   1301  O   LYS A 176      38.563  21.906  13.291  1.00 32.85           O
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ATOM   1302  CB  LYS A 176      36.351  19.915  12.074  1.00 33.80           C
ATOM   1303  CG  LYS A 176      36.187  18.832  11.037  1.00 35.93           C
ATOM   1304  CD  LYS A 176      34.982  19.185  10.168  1.00 39.44           C
ATOM   1305  CE  LYS A 176      34.055  18.032   9.961  1.00 40.94           C
ATOM   1306  NZ  LYS A 176      32.686  18.495   9.578  1.00 45.01           N
ATOM   1307  N   ARG A 177      37.074  21.398  14.859  1.00 32.98           N
ATOM   1308  CA  ARG A 177      37.242  22.677  15.571  1.00 33.61           C
ATOM   1309  C   ARG A 177      38.313  22.713  16.678  1.00 33.16           C
ATOM   1310  O   ARG A 177      38.453  23.717  17.370  1.00 33.01           O
ATOM   1311  CB  ARG A 177      35.920  23.101  16.220  1.00 33.86           C
ATOM   1312  CG  ARG A 177      34.716  22.947  15.353  1.00 35.87           C
ATOM   1313  CD  ARG A 177      34.728  23.721  14.062  1.00 37.56           C
ATOM   1314  NE  ARG A 177      33.704  23.135  13.222  1.00 42.96           N
ATOM   1315  CZ  ARG A 177      33.803  22.893  11.928  1.00 45.93           C
ATOM   1316  NH1 ARG A 177      34.897  23.218  11.247  1.00 46.65           N
ATOM   1317  NH2 ARG A 177      32.770  22.349  11.304  1.00 47.47           N
ATOM   1318  N   GLY A 178      39.038  21.624  16.887  1.00 32.79           N
ATOM   1319  CA  GLY A 178      40.068  21.629  17.907  1.00 31.78           C
ATOM   1320  C   GLY A 178      39.511  21.614  19.313  1.00 31.64           C
ATOM   1321  O   GLY A 178      40.251  21.782  20.292  1.00 33.25           O
ATOM   1322  N   TRP A 179      38.223  21.380  19.468  1.00 30.56           N
ATOM   1323  CA  TRP A 179      37.690  21.361  20.821  1.00 30.44           C
ATOM   1324  C   TRP A 179      38.328  20.385  21.789  1.00 30.36           C
ATOM   1325  O   TRP A 179      39.008  19.446  21.416  1.00 29.60           O
ATOM   1326  CB  TRP A 179      36.200  21.115  20.806  1.00 30.43           C
ATOM   1327  CG  TRP A 179      35.426  22.183  20.136  1.00 29.86           C
ATOM   1328  CD1 TRP A 179      35.882  23.409  19.721  1.00 27.42           C
ATOM   1329  CD2 TRP A 179      34.054  22.115  19.769  1.00 29.51           C
ATOM   1330  NE1 TRP A 179      34.870  24.102  19.104  1.00 30.05           N
ATOM   1331  CE2 TRP A 179      33.728  23.338  19.130  1.00 30.70           C
ATOM   1332  CE3 TRP A 179      33.067  21.145  19.902  1.00 27.24           C
ATOM   1333  CZ2 TRP A 179      32.470  23.602  18.626  1.00 27.82           C
ATOM   1334  CZ3 TRP A 179      31.829  21.397  19.389  1.00 28.43           C
ATOM   1335  CH2 TRP A 179      31.532  22.630  18.759  1.00 29.15           C
ATOM   1336  N   GLY A 180      38.087  20.634  23.065  1.00 30.98           N
ATOM   1337  CA  GLY A 180      38.515  19.723  24.104  1.00 30.78           C
ATOM   1338  C   GLY A 180      37.468  18.637  24.246  1.00 31.74           C
ATOM   1339  O   GLY A 180      36.621  18.448  23.343  1.00 31.97           O
ATOM   1340  N   GLN A 181      37.498  17.941  25.378  1.00 32.16           N
ATOM   1341  CA  GLN A 181      36.628  16.798  25.608  1.00 33.12           C
ATOM   1342  C   GLN A 181      35.161  17.108  25.885  1.00 32.52           C
ATOM   1343  O   GLN A 181      34.813  18.181  26.348  1.00 32.55           O
ATOM   1344  CB  GLN A 181      37.161  15.962  26.773  1.00 33.24           C
ATOM   1345  CG  GLN A 181      36.780  16.496  28.155  1.00 37.52           C
ATOM   1346  CD  GLN A 181      37.066  15.488  29.282  1.00 42.63           C
ATOM   1347  OE1 GLN A 181      38.200  15.034  29.442  1.00 46.67           O
ATOM   1348  NE2 GLN A 181      36.037  15.131  30.043  1.00 45.13           N
ATOM   1349  N   LEU A 182      34.310  16.134  25.588  1.00 32.12           N
ATOM   1350  CA  LEU A 182      32.907  16.155  26.001  1.00 31.88           C
ATOM   1351  C   LEU A 182      32.928  16.114  27.528  1.00 30.66           C
ATOM   1352  O   LEU A 182      33.481  15.190  28.087  1.00 30.31           O
ATOM   1353  CB  LEU A 182      32.228  14.880  25.512  1.00 31.80           C
ATOM   1354  CG  LEU A 182      30.715  14.723  25.454  1.00 33.59           C
ATOM   1355  CD1 LEU A 182      30.319  13.250  25.572  1.00 32.15           C
ATOM   1356  CD2 LEU A 182      30.059  15.454  26.520  1.00 36.60           C
ATOM   1357  N   THR A 183      32.373  17.112  28.207  1.00 29.62           N
ATOM   1358  CA  THR A 183      32.383  17.088  29.657  1.00 28.62           C
ATOM   1359  C   THR A 183      31.088  16.509  30.123  1.00 28.48           C
ATOM   1360  O   THR A 183      31.034  15.991  31.207  1.00 28.46           O
ATOM   1361  CB  THR A 183      32.504  18.509  30.276  1.00 28.82           C
ATOM   1362  OG1 THR A 183      31.441  19.364  29.795  1.00 28.93           O
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ATOM   1363  CG2 THR A 183      33.764  19.178  29.846  1.00 28.28           C
ATOM   1364  N   SER A 184      30.005  16.673  29.355  1.00 28.14           N
ATOM   1365  CA  SER A 184      28.734  16.144  29.805  1.00 28.16           C
ATOM   1366  C   SER A 184      27.602  16.374  28.878  1.00 28.07           C
ATOM   1367  O   SER A 184      27.703  17.120  27.931  1.00 29.72           O
ATOM   1368  CB  SER A 184      28.357  16.750  31.149  1.00 27.81           C
ATOM   1369  OG  SER A 184      28.166  18.132  31.017  1.00 30.35           O
ATOM   1370  N   ASN A 185      26.505  15.721  29.176  1.00 27.93           N
ATOM   1371  CA  ASN A 185      25.288  15.850  28.434  1.00 28.66           C
ATOM   1372  C   ASN A 185      24.235  16.086  29.476  1.00 28.67           C
ATOM   1373  O   ASN A 185      23.974  15.226  30.291  1.00 27.67           O
ATOM   1374  CB  ASN A 185      24.927  14.543  27.683  1.00 28.53           C
ATOM   1375  CG  ASN A 185      25.914  14.191  26.589  1.00 29.19           C
ATOM   1376  OD1 ASN A 185      26.684  13.278  26.766  1.00 30.93           O
ATOM   1377  ND2 ASN A 185      25.891  14.910  25.451  1.00 29.67           N
ATOM   1378  N   LEU A 186      23.583  17.221  29.415  1.00 29.39           N
ATOM   1379  CA  LEU A 186      22.557  17.526  30.388  1.00 30.47           C
ATOM   1380  C   LEU A 186      21.179  17.177  29.835  1.00 30.85           C
ATOM   1381  O   LEU A 186      20.796  17.566  28.714  1.00 30.64           O
ATOM   1382  CB  LEU A 186      22.617  18.998  30.730  1.00 30.48           C
ATOM   1383  CG  LEU A 186      21.779  19.484  31.917  1.00 32.51           C
ATOM   1384  CD1 LEU A 186      22.330  18.952  33.238  1.00 31.55           C
ATOM   1385  CD2 LEU A 186      21.678  21.072  31.954  1.00 29.96           C
ATOM   1386  N   LEU A 187      20.409  16.439  30.613  1.00 31.21           N
ATOM   1387  CA  LEU A 187      19.042  16.155  30.188  1.00 30.60           C
ATOM   1388  C   LEU A 187      18.162  17.256  30.787  1.00 30.79           C
ATOM   1389  O   LEU A 187      18.257  17.557  31.991  1.00 29.69           O
ATOM   1390  CB  LEU A 187      18.626  14.781  30.644  1.00 30.50           C
ATOM   1391  CG  LEU A 187      17.130  14.465  30.590  1.00 32.29           C
ATOM   1392  CD1 LEU A 187      16.592  14.409  29.164  1.00 33.95           C
ATOM   1393  CD2 LEU A 187      16.864  13.137  31.270  1.00 32.62           C
ATOM   1394  N   LEU A 188      17.390  17.933  29.939  1.00 30.75           N
ATOM   1395  CA  LEU A 188      16.513  18.973  30.426  1.00 31.42           C
ATOM   1396  C   LEU A 188      15.053  18.646  30.107  1.00 32.02           C
ATOM   1397  O   LEU A 188      14.676  18.481  28.941  1.00 31.44           O
ATOM   1398  CB  LEU A 188      16.856  20.323  29.821  1.00 31.69           C
ATOM   1399  CG  LEU A 188      18.253  20.823  30.131  1.00 32.24           C
ATOM   1400  CD1 LEU A 188      19.094  20.883  28.904  1.00 32.79           C
ATOM   1401  CD2 LEU A 188      18.121  22.200  30.658  1.00 32.69           C
ATOM   1402  N   ILE A 189      14.228  18.568  31.146  1.00 32.26           N
ATOM   1403  CA  ILE A 189      12.816  18.305  30.944  1.00 32.23           C
ATOM   1404  C   ILE A 189      12.067  19.386  31.664  1.00 32.02           C
ATOM   1405  O   ILE A 189      12.194  19.520  32.895  1.00 31.42           O
ATOM   1406  CB  ILE A 189      12.427  16.966  31.479  1.00 32.05           C
ATOM   1407  CG1 ILE A 189      13.256  15.894  30.793  1.00 33.02           C
ATOM   1408  CG2 ILE A 189      10.957  16.764  31.232  1.00 32.90           C
ATOM   1409  CD1 ILE A 189      13.006  14.466  31.277  1.00 34.20           C
ATOM   1410  N   GLY A 190      11.279  20.145  30.898  1.00 31.94           N
ATOM   1411  CA  GLY A 190      10.623  21.334  31.414  1.00 31.49           C
ATOM   1412  C   GLY A 190       9.147  21.362  31.125  1.00 31.41           C
ATOM   1413  O   GLY A 190       8.671  20.649  30.245  1.00 30.40           O
ATOM   1414  N   MET A 191       8.433  22.154  31.914  1.00 31.55           N
ATOM   1415  CA  MET A 191       7.027  22.378  31.697  1.00 32.41           C
ATOM   1416  C   MET A 191       6.863  23.547  30.751  1.00 32.03           C
ATOM   1417  O   MET A 191       7.722  24.435  30.658  1.00 32.29           O
ATOM   1418  CB  MET A 191       6.313  22.672  33.008  1.00 33.21           C
ATOM   1419  CG  MET A 191       6.294  21.499  33.957  1.00 35.09           C
ATOM   1420  SD  MET A 191       5.828  21.953  35.652  1.00 39.51           S
ATOM   1421  CE  MET A 191       4.213  22.512  35.350  1.00 39.52           C
ATOM   1422  N   GLU A 192       5.755  23.539  30.033  1.00 31.96           N
ATOM   1423  CA  GLU A 192       5.459  24.588  29.081  1.00 32.31           C
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ATOM   1424  C   GLU A 192       5.511  25.919  29.776  1.00 31.73           C
ATOM   1425  O   GLU A 192       5.096  26.041  30.913  1.00 31.73           O
ATOM   1426  CB  GLU A 192       4.087  24.375  28.508  1.00 33.09           C
ATOM   1427  CG  GLU A 192       2.995  24.434  29.552  1.00 34.74           C
ATOM   1428  CD  GLU A 192       1.679  23.940  29.019  1.00 36.73           C
ATOM   1429  OE1 GLU A 192       1.630  23.515  27.832  1.00 37.30           O
ATOM   1430  OE2 GLU A 192       0.698  24.001  29.791  1.00 38.64           O
ATOM   1431  N   GLY A 193       6.049  26.926  29.103  1.00 31.79           N
ATOM   1432  CA  GLY A 193       6.201  28.242  29.714  1.00 30.87           C
ATOM   1433  C   GLY A 193       7.480  28.432  30.521  1.00 30.28           C
ATOM   1434  O   GLY A 193       7.777  29.534  30.901  1.00 30.29           O
ATOM   1435  N   ASN A 194       8.223  27.375  30.825  1.00 29.85           N
ATOM   1436  CA  ASN A 194       9.460  27.536  31.604  1.00 29.38           C
ATOM   1437  C   ASN A 194      10.473  28.371  30.840  1.00 28.61           C
ATOM   1438  O   ASN A 194      10.606  28.216  29.615  1.00 28.58           O
ATOM   1439  CB  ASN A 194      10.136  26.186  31.866  1.00 29.15           C
ATOM   1440  CG  ASN A 194       9.565  25.445  33.049  1.00 29.50           C
ATOM   1441  OD1 ASN A 194       8.632  25.896  33.714  1.00 32.61           O
ATOM   1442  ND2 ASN A 194      10.146  24.305  33.334  1.00 28.53           N
ATOM   1443  N   VAL A 195      11.221  29.194  31.561  1.00 27.70           N
ATOM   1444  CA  VAL A 195      12.272  29.998  30.962  1.00 27.80           C
ATOM   1445  C   VAL A 195      13.586  29.858  31.701  1.00 27.07           C
ATOM   1446  O   VAL A 195      13.636  29.898  32.939  1.00 27.43           O
ATOM   1447  CB  VAL A 195      11.904  31.520  31.018  1.00 28.18           C
ATOM   1448  CG1 VAL A 195      13.056  32.371  30.560  1.00 26.78           C
ATOM   1449  CG2 VAL A 195      10.662  31.789  30.187  1.00 29.06           C
ATOM   1450  N   THR A 196      14.659  29.712  30.953  1.00 26.48           N
ATOM   1451  CA  THR A 196      15.994  29.811  31.530  1.00 26.08           C
ATOM   1452  C   THR A 196      16.462  31.184  31.084  1.00 27.03           C
ATOM   1453  O   THR A 196      16.614  31.425  29.876  1.00 26.51           O
ATOM   1454  CB  THR A 196      16.915  28.811  30.934  1.00 25.96           C
ATOM   1455  OG1 THR A 196      16.525  27.478  31.309  1.00 26.20           O
ATOM   1456  CG2 THR A 196      18.340  29.012  31.457  1.00 23.99           C
ATOM   1457  N   PRO A 197      16.647  32.090  32.036  1.00 27.21           N
ATOM   1458  CA  PRO A 197      17.053  33.451  31.725  1.00 27.46           C
ATOM   1459  C   PRO A 197      18.432  33.512  31.113  1.00 27.48           C
ATOM   1460  O   PRO A 197      19.248  32.588  31.293  1.00 27.52           O
ATOM   1461  CB  PRO A 197      17.007  34.166  33.075  1.00 27.56           C
ATOM   1462  CG  PRO A 197      16.226  33.344  33.924  1.00 28.15           C
ATOM   1463  CD  PRO A 197      16.384  31.914  33.470  1.00 27.92           C
ATOM   1464  N   ALA A 198      18.668  34.616  30.413  1.00 26.77           N
ATOM   1465  CA  ALA A 198      19.877  34.830  29.647  1.00 26.92           C
ATOM   1466  C   ALA A 198      21.172  34.681  30.438  1.00 27.14           C
ATOM   1467  O   ALA A 198      21.354  35.278  31.520  1.00 25.53           O
ATOM   1468  CB  ALA A 198      19.828  36.235  29.021  1.00 27.07           C
ATOM   1469  N   HIS A 199      22.091  33.929  29.839  1.00 27.28           N
ATOM   1470  CA  HIS A 199      23.399  33.673  30.424  1.00 27.81           C
ATOM   1471  C   HIS A 199      24.319  33.208  29.333  1.00 28.09           C
ATOM   1472  O   HIS A 199      23.857  32.933  28.197  1.00 28.34           O
ATOM   1473  CB  HIS A 199      23.323  32.549  31.461  1.00 27.10           C
ATOM   1474  CG  HIS A 199      22.963  31.221  30.864  1.00 29.70           C
ATOM   1475  ND1 HIS A 199      21.668  30.891  30.525  1.00 30.01           N
ATOM   1476  CD2 HIS A 199      23.728  30.180  30.463  1.00 29.60           C
ATOM   1477  CE1 HIS A 199      21.647  29.684  29.993  1.00 29.66           C
ATOM   1478  NE2 HIS A 199      22.881  29.236  29.926  1.00 30.43           N
ATOM   1479  N   TYR A 200      25.612  33.104  29.671  1.00 28.30           N
ATOM   1480  CA  TYR A 200      26.607  32.518  28.769  1.00 28.15           C
ATOM   1481  C   TYR A 200      27.298  31.351  29.482  1.00 27.91           C
ATOM   1482  O   TYR A 200      27.335  31.333  30.690  1.00 27.87           O
ATOM   1483  CB  TYR A 200      27.585  33.534  28.217  1.00 28.02           C
ATOM   1484  CG  TYR A 200      28.540  34.142  29.226  1.00 29.58           C
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ATOM   1485  CD1 TYR A 200      29.784  33.571  29.462  1.00 28.14           C
ATOM   1486  CD2 TYR A 200      28.231  35.342  29.871  1.00 29.32           C
ATOM   1487  CE1 TYR A 200      30.660  34.128  30.367  1.00 30.20           C
ATOM   1488  CE2 TYR A 200      29.107  35.919  30.777  1.00 29.61           C
ATOM   1489  CZ  TYR A 200      30.319  35.315  31.031  1.00 29.78           C
ATOM   1490  OH  TYR A 200      31.180  35.864  31.940  1.00 24.43           O
ATOM   1491  N   ASP A 201      27.797  30.363  28.727  1.00 27.73           N
ATOM   1492  CA  ASP A 201      28.461  29.180  29.302  1.00 27.65           C
ATOM   1493  C   ASP A 201      29.873  29.220  28.799  1.00 27.87           C
ATOM   1494  O   ASP A 201      30.080  29.765  27.768  1.00 27.68           O
ATOM   1495  CB  ASP A 201      27.775  27.884  28.855  1.00 26.32           C
ATOM   1496  CG  ASP A 201      26.356  27.768  29.363  1.00 25.12           C
ATOM   1497  OD1 ASP A 201      26.156  27.722  30.605  1.00 23.49           O
ATOM   1498  OD2 ASP A 201      25.360  27.687  28.589  1.00 27.18           O
ATOM   1499  N   GLU A 202      30.843  28.682  29.520  1.00 29.28           N
ATOM   1500  CA  GLU A 202      32.228  28.672  29.013  1.00 31.18           C
ATOM   1501  C   GLU A 202      32.571  27.435  28.190  1.00 31.54           C
ATOM   1502  O   GLU A 202      33.734  27.060  28.139  1.00 33.48           O
ATOM   1503  CB  GLU A 202      33.250  28.741  30.155  1.00 30.78           C
ATOM   1504  CG  GLU A 202      33.122  29.981  31.003  1.00 33.61           C
ATOM   1505  CD  GLU A 202      34.194  30.081  32.062  1.00 35.96           C
ATOM   1506  OE1 GLU A 202      34.036  29.531  33.166  1.00 41.25           O
ATOM   1507  OE2 GLU A 202      35.199  30.718  31.788  1.00 39.13           O
ATOM   1508  N   GLN A 203      31.582  26.747  27.641  1.00 31.19           N
ATOM   1509  CA  GLN A 203      31.844  25.589  26.833  1.00 30.78           C
ATOM   1510  C   GLN A 203      31.078  25.743  25.556  1.00 29.96           C
ATOM   1511  O   GLN A 203      30.213  26.581  25.462  1.00 30.22           O
ATOM   1512  CB  GLN A 203      31.427  24.315  27.546  1.00 31.32           C
ATOM   1513  CG  GLN A 203      32.364  23.971  28.725  1.00 34.97           C
ATOM   1514  CD  GLN A 203      32.204  22.548  29.288  1.00 35.23           C
ATOM   1515  OE1 GLN A 203      32.161  21.559  28.551  1.00 36.82           O
ATOM   1516  NE2 GLN A 203      32.160  22.456  30.600  1.00 35.56           N
ATOM   1517  N   GLN A 204      31.461  24.961  24.555  1.00 29.46           N
ATOM   1518  CA  GLN A 204      30.791  24.911  23.292  1.00 28.65           C
ATOM   1519  C   GLN A 204      29.641  23.941  23.494  1.00 28.27           C
ATOM   1520  O   GLN A 204      29.797  22.941  24.194  1.00 27.65           O
ATOM   1521  CB  GLN A 204      31.717  24.381  22.214  1.00 29.02           C
ATOM   1522  CG  GLN A 204      33.006  25.154  22.028  1.00 28.50           C
ATOM   1523  CD  GLN A 204      32.818  26.366  21.150  1.00 27.16           C
ATOM   1524  OE1 GLN A 204      31.690  26.742  20.846  1.00 22.90           O
ATOM   1525  NE2 GLN A 204      33.921  26.952  20.714  1.00 23.20           N
ATOM   1526  N   ASN A 205      28.497  24.219  22.864  1.00 27.36           N
ATOM   1527  CA  ASN A 205      27.302  23.424  23.058  1.00 27.13           C
ATOM   1528  C   ASN A 205      26.552  23.052  21.777  1.00 27.39           C
ATOM   1529  O   ASN A 205      26.151  23.930  20.999  1.00 27.36           O
ATOM   1530  CB  ASN A 205      26.378  24.229  23.967  1.00 26.95           C
ATOM   1531  CG  ASN A 205      25.083  23.525  24.327  1.00 27.30           C
ATOM   1532  OD1 ASN A 205      24.726  22.453  23.818  1.00 27.11           O
ATOM   1533  ND2 ASN A 205      24.319  24.190  25.171  1.00 24.64           N
ATOM   1534  N   PHE A 206      26.383  21.749  21.542  1.00 26.46           N
ATOM   1535  CA  PHE A 206      25.417  21.334  20.554  1.00 25.88           C
ATOM   1536  C   PHE A 206      24.181  20.946  21.373  1.00 25.65           C
ATOM   1537  O   PHE A 206      24.230  19.988  22.178  1.00 25.16           O
ATOM   1538  CB  PHE A 206      25.909  20.170  19.717  1.00 26.28           C
ATOM   1539  CG  PHE A 206      26.837  20.566  18.636  1.00 24.81           C
ATOM   1540  CD1 PHE A 206      26.416  21.374  17.633  1.00 26.27           C
ATOM   1541  CD2 PHE A 206      28.122  20.098  18.616  1.00 25.53           C
ATOM   1542  CE1 PHE A 206      27.248  21.736  16.634  1.00 27.05           C
ATOM   1543  CE2 PHE A 206      28.991  20.469  17.617  1.00 26.80           C
ATOM   1544  CZ  PHE A 206      28.549  21.274  16.619  1.00 28.34           C
ATOM   1545  N   PHE A 207      23.084  21.648  21.086  1.00 25.08           N
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ATOM   1546  CA  PHE A 207      21.809  21.625  21.827  1.00 25.52           C
ATOM   1547  C   PHE A 207      20.775  20.885  21.011  1.00 25.55           C
ATOM   1548  O   PHE A 207      20.261  21.410  20.058  1.00 25.61           O
ATOM   1549  CB  PHE A 207      21.408  23.107  22.074  1.00 25.37           C
ATOM   1550  CG  PHE A 207      20.146  23.346  22.872  1.00 23.70           C
ATOM   1551  CD1 PHE A 207      18.938  23.547  22.234  1.00 24.08           C
ATOM   1552  CD2 PHE A 207      20.199  23.551  24.220  1.00 25.24           C
ATOM   1553  CE1 PHE A 207      17.800  23.864  22.927  1.00 24.50           C
ATOM   1554  CE2 PHE A 207      19.035  23.883  24.959  1.00 26.04           C
ATOM   1555  CZ  PHE A 207      17.836  24.021  24.298  1.00 26.68           C
ATOM   1556  N   ALA A 208      20.490  19.657  21.422  1.00 26.60           N
ATOM   1557  CA  ALA A 208      19.667  18.710  20.689  1.00 26.45           C
ATOM   1558  C   ALA A 208      18.231  18.594  21.210  1.00 27.10           C
ATOM   1559  O   ALA A 208      17.966  17.987  22.273  1.00 26.47           O
ATOM   1560  CB  ALA A 208      20.303  17.363  20.766  1.00 25.67           C
ATOM   1561  N   GLN A 209      17.306  19.121  20.419  1.00 27.02           N
ATOM   1562  CA  GLN A 209      15.918  19.125  20.833  1.00 27.37           C
ATOM   1563  C   GLN A 209      15.276  17.781  20.519  1.00 27.55           C
ATOM   1564  O   GLN A 209      15.489  17.190  19.427  1.00 26.51           O
ATOM   1565  CB  GLN A 209      15.195  20.301  20.179  1.00 27.15           C
ATOM   1566  CG  GLN A 209      13.806  20.508  20.662  1.00 27.77           C
ATOM   1567  CD  GLN A 209      13.740  20.959  22.126  1.00 29.40           C
ATOM   1568  OE1 GLN A 209      14.773  21.166  22.774  1.00 27.27           O
ATOM   1569  NE2 GLN A 209      12.517  21.118  22.636  1.00 27.15           N
ATOM   1570  N   ILE A 210      14.461  17.327  21.473  1.00 28.32           N
ATOM   1571  CA  ILE A 210      13.897  15.998  21.429  1.00 29.37           C
ATOM   1572  C   ILE A 210      12.403  15.966  21.435  1.00 30.37           C
ATOM   1573  O   ILE A 210      11.849  15.275  20.619  1.00 31.58           O
ATOM   1574  CB  ILE A 210      14.413  15.204  22.605  1.00 29.80           C
ATOM   1575  CG1 ILE A 210      15.830  14.734  22.302  1.00 30.27           C
ATOM   1576  CG2 ILE A 210      13.525  14.005  22.864  1.00 30.25           C
ATOM   1577  CD1 ILE A 210      16.624  14.421  23.516  1.00 32.28           C
ATOM   1578  N   LYS A 211      11.757  16.664  22.374  1.00 31.18           N
ATOM   1579  CA  LYS A 211      10.300  16.723  22.438  1.00 31.16           C
ATOM   1580  C   LYS A 211       9.887  18.137  22.706  1.00 31.19           C
ATOM   1581  O   LYS A 211      10.495  18.800  23.523  1.00 31.21           O
ATOM   1582  CB  LYS A 211       9.767  15.891  23.591  1.00 32.00           C
ATOM   1583  CG  LYS A 211       8.240  15.758  23.629  1.00 32.36           C
ATOM   1584  CD  LYS A 211       7.787  15.177  24.970  1.00 33.23           C
ATOM   1585  CE  LYS A 211       6.497  14.368  24.883  1.00 35.14           C
ATOM   1586  NZ  LYS A 211       5.506  14.755  23.835  1.00 35.43           N
ATOM   1587  N   GLY A 212       8.844  18.592  22.018  1.00 31.20           N
ATOM   1588  CA  GLY A 212       8.337  19.934  22.174  1.00 30.96           C
ATOM   1589  C   GLY A 212       9.209  20.975  21.495  1.00 31.42           C
ATOM   1590  O   GLY A 212      10.167  20.670  20.771  1.00 31.06           O
ATOM   1591  N   TYR A 213       8.857  22.224  21.734  1.00 31.43           N
ATOM   1592  CA  TYR A 213       9.507  23.319  21.057  1.00 31.80           C
ATOM   1593  C   TYR A 213      10.046  24.332  22.043  1.00 31.00           C
ATOM   1594  O   TYR A 213       9.411  24.649  23.038  1.00 29.31           O
ATOM   1595  CB  TYR A 213       8.502  23.959  20.127  1.00 32.64           C
ATOM   1596  CG  TYR A 213       8.103  23.039  19.015  1.00 35.60           C
ATOM   1597  CD1 TYR A 213       7.089  22.071  19.174  1.00 38.37           C
ATOM   1598  CD2 TYR A 213       8.758  23.110  17.813  1.00 37.73           C
ATOM   1599  CE1 TYR A 213       6.765  21.223  18.137  1.00 39.37           C
ATOM   1600  CE2 TYR A 213       8.443  22.292  16.792  1.00 39.75           C
ATOM   1601  CZ  TYR A 213       7.460  21.364  16.924  1.00 41.66           C
ATOM   1602  OH  TYR A 213       7.232  20.603  15.782  1.00 46.53           O
ATOM   1603  N   LYS A 214      11.260  24.787  21.777  1.00 30.99           N
ATOM   1604  CA  LYS A 214      11.886  25.804  22.594  1.00 31.15           C
ATOM   1605  C   LYS A 214      12.305  26.993  21.762  1.00 31.00           C
ATOM   1606  O   LYS A 214      12.914  26.838  20.695  1.00 31.84           O
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ATOM   1607  CB  LYS A 214      13.112  25.244  23.311  1.00 31.08           C
ATOM   1608  CG  LYS A 214      12.806  24.432  24.557  1.00 30.96           C
ATOM   1609  CD  LYS A 214      14.106  23.949  25.159  1.00 30.84           C
ATOM   1610  CE  LYS A 214      13.982  23.555  26.584  1.00 29.59           C
ATOM   1611  NZ  LYS A 214      15.278  23.118  27.162  1.00 28.16           N
ATOM   1612  N   ARG A 215      11.992  28.193  22.241  1.00 30.59           N
ATOM   1613  CA  ARG A 215      12.445  29.385  21.549  1.00 29.98           C
ATOM   1614  C   ARG A 215      13.764  29.790  22.154  1.00 29.65           C
ATOM   1615  O   ARG A 215      13.850  29.982  23.349  1.00 29.61           O
ATOM   1616  CB  ARG A 215      11.431  30.502  21.690  1.00 30.08           C
ATOM   1617  CG  ARG A 215      11.835  31.810  21.004  1.00 29.82           C
ATOM   1618  CD  ARG A 215      11.221  32.960  21.731  1.00 32.78           C
ATOM   1619  NE  ARG A 215      11.211  34.189  20.975  1.00 33.81           N
ATOM   1620  CZ  ARG A 215      10.540  35.259  21.336  1.00 35.12           C
ATOM   1621  NH1 ARG A 215       9.828  35.262  22.441  1.00 35.28           N
ATOM   1622  NH2 ARG A 215      10.586  36.338  20.581  1.00 39.28           N
ATOM   1623  N   CYS A 216      14.791  29.909  21.327  1.00 29.86           N
ATOM   1624  CA  CYS A 216      16.129  30.237  21.797  1.00 29.64           C
ATOM   1625  C   CYS A 216      16.533  31.603  21.274  1.00 30.06           C
ATOM   1626  O   CYS A 216      16.516  31.807  20.092  1.00 31.32           O
ATOM   1627  CB  CYS A 216      17.113  29.183  21.275  1.00 29.78           C
ATOM   1628  SG  CYS A 216      16.658  27.438  21.641  1.00 30.35           S
ATOM   1629  N   ILE A 217      16.849  32.556  22.149  1.00 30.28           N
ATOM   1630  CA  ILE A 217      17.303  33.876  21.744  1.00 29.78           C
ATOM   1631  C   ILE A 217      18.758  34.017  22.203  1.00 29.42           C
ATOM   1632  O   ILE A 217      19.050  33.852  23.385  1.00 28.77           O
ATOM   1633  CB  ILE A 217      16.427  34.969  22.391  1.00 30.51           C
ATOM   1634  CG1 ILE A 217      14.934  34.705  22.111  1.00 31.29           C
ATOM   1635  CG2 ILE A 217      16.785  36.313  21.843  1.00 30.11           C
ATOM   1636  CD1 ILE A 217      14.009  35.655  22.847  1.00 33.08           C
ATOM   1637  N   LEU A 218      19.647  34.326  21.257  1.00 28.60           N
ATOM   1638  CA  LEU A 218      21.059  34.392  21.501  1.00 28.59           C
ATOM   1639  C   LEU A 218      21.606  35.781  21.257  1.00 28.74           C
ATOM   1640  O   LEU A 218      21.102  36.522  20.412  1.00 29.64           O
ATOM   1641  CB  LEU A 218      21.788  33.422  20.574  1.00 28.52           C
ATOM   1642  CG  LEU A 218      21.927  31.980  21.028  1.00 28.46           C
ATOM   1643  CD1 LEU A 218      20.569  31.318  21.233  1.00 28.95           C
ATOM   1644  CD2 LEU A 218      22.707  31.196  20.026  1.00 27.94           C
ATOM   1645  N   PHE A 219      22.659  36.145  21.986  1.00 28.61           N
ATOM   1646  CA  PHE A 219      23.309  37.458  21.774  1.00 28.07           C
ATOM   1647  C   PHE A 219      24.811  37.221  21.710  1.00 28.25           C
ATOM   1648  O   PHE A 219      25.352  36.468  22.517  1.00 28.82           O
ATOM   1649  CB  PHE A 219      22.987  38.415  22.908  1.00 26.73           C
ATOM   1650  CG  PHE A 219      21.522  38.553  23.199  1.00 27.28           C
ATOM   1651  CD1 PHE A 219      20.874  37.658  24.029  1.00 25.73           C
ATOM   1652  CD2 PHE A 219      20.782  39.598  22.648  1.00 28.57           C
ATOM   1653  CE1 PHE A 219      19.536  37.811  24.311  1.00 26.59           C
ATOM   1654  CE2 PHE A 219      19.443  39.722  22.898  1.00 27.78           C
ATOM   1655  CZ  PHE A 219      18.816  38.828  23.725  1.00 28.22           C
ATOM   1656  N   PRO A 220      25.501  37.840  20.776  1.00 28.30           N
ATOM   1657  CA  PRO A 220      26.946  37.641  20.675  1.00 28.76           C
ATOM   1658  C   PRO A 220      27.688  38.195  21.881  1.00 29.07           C
ATOM   1659  O   PRO A 220      27.172  39.019  22.661  1.00 29.11           O
ATOM   1660  CB  PRO A 220      27.336  38.413  19.426  1.00 28.79           C
ATOM   1661  CG  PRO A 220      26.016  38.847  18.795  1.00 29.65           C
ATOM   1662  CD  PRO A 220      24.987  38.794  19.790  1.00 28.85           C
ATOM   1663  N   PRO A 221      28.914  37.727  22.057  1.00 29.09           N
ATOM   1664  CA  PRO A 221      29.725  38.147  23.188  1.00 28.85           C
ATOM   1665  C   PRO A 221      29.979  39.656  23.199  1.00 28.60           C
ATOM   1666  O   PRO A 221      30.223  40.182  24.270  1.00 26.85           O
ATOM   1667  CB  PRO A 221      31.018  37.412  22.975  1.00 29.01           C
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ATOM   1668  CG  PRO A 221      30.665  36.286  22.114  1.00 30.46           C
ATOM   1669  CD  PRO A 221      29.580  36.722  21.232  1.00 29.52           C
ATOM   1670  N   ASP A 222      29.853  40.335  22.062  1.00 28.17           N
ATOM   1671  CA  ASP A 222      30.155  41.763  22.044  1.00 28.79           C
ATOM   1672  C   ASP A 222      28.976  42.554  22.533  1.00 28.84           C
ATOM   1673  O   ASP A 222      28.948  43.767  22.432  1.00 30.46           O
ATOM   1674  CB  ASP A 222      30.631  42.287  20.693  1.00 27.27           C
ATOM   1675  CG  ASP A 222      29.541  42.288  19.655  1.00 30.76           C
ATOM   1676  OD1 ASP A 222      28.368  41.926  19.920  1.00 30.56           O
ATOM   1677  OD2 ASP A 222      29.785  42.609  18.495  1.00 39.36           O
ATOM   1678  N   GLN A 223      28.000  41.885  23.083  1.00 29.33           N
ATOM   1679  CA  GLN A 223      26.902  42.614  23.676  1.00 29.61           C
ATOM   1680  C   GLN A 223      27.012  42.533  25.194  1.00 28.97           C
ATOM   1681  O   GLN A 223      26.065  42.825  25.919  1.00 29.82           O
ATOM   1682  CB  GLN A 223      25.575  42.131  23.110  1.00 30.22           C
ATOM   1683  CG  GLN A 223      25.244  42.854  21.762  1.00 33.01           C
ATOM   1684  CD  GLN A 223      23.866  42.562  21.241  1.00 37.71           C
ATOM   1685  OE1 GLN A 223      22.899  42.573  22.005  1.00 43.11           O
ATOM   1686  NE2 GLN A 223      23.760  42.285  19.943  1.00 38.91           N
ATOM   1687  N   PHE A 224      28.181  42.148  25.672  1.00 27.69           N
ATOM   1688  CA  PHE A 224      28.452  42.168  27.115  1.00 28.30           C
ATOM   1689  C   PHE A 224      27.932  43.497  27.771  1.00 29.27           C
ATOM   1690  O   PHE A 224      27.248  43.448  28.786  1.00 29.24           O
ATOM   1691  CB  PHE A 224      29.968  42.025  27.373  1.00 26.64           C
ATOM   1692  CG  PHE A 224      30.338  41.881  28.810  1.00 27.05           C
ATOM   1693  CD1 PHE A 224      30.526  42.992  29.619  1.00 26.91           C
ATOM   1694  CD2 PHE A 224      30.560  40.649  29.365  1.00 25.77           C
ATOM   1695  CE1 PHE A 224      30.878  42.864  30.930  1.00 24.95           C
ATOM   1696  CE2 PHE A 224      30.928  40.522  30.675  1.00 25.92           C
ATOM   1697  CZ  PHE A 224      31.056  41.641  31.467  1.00 27.45           C
ATOM   1698  N   GLU A 225      28.253  44.658  27.177  1.00 30.23           N
ATOM   1699  CA  GLU A 225      27.873  45.951  27.753  1.00 31.35           C
ATOM   1700  C   GLU A 225      26.362  46.120  27.909  1.00 30.48           C
ATOM   1701  O   GLU A 225      25.925  46.920  28.738  1.00 28.49           O
ATOM   1702  CB  GLU A 225      28.401  47.130  26.927  1.00 32.35           C
ATOM   1703  CG  GLU A 225      29.894  47.356  27.083  1.00 37.72           C
ATOM   1704  CD  GLU A 225      30.327  48.801  27.406  1.00 45.22           C
ATOM   1705  OE1 GLU A 225      29.848  49.472  28.389  1.00 44.87           O
ATOM   1706  OE2 GLU A 225      31.230  49.248  26.665  1.00 54.04           O
ATOM   1707  N   CYS A 226      25.579  45.375  27.116  1.00 29.44           N
ATOM   1708  CA  CYS A 226      24.132  45.532  27.155  1.00 28.60           C
ATOM   1709  C   CYS A 226      23.429  44.524  28.056  1.00 28.86           C
ATOM   1710  O   CYS A 226      22.236  44.716  28.352  1.00 27.16           O
ATOM   1711  CB  CYS A 226      23.541  45.373  25.767  1.00 29.07           C
ATOM   1712  SG  CYS A 226      24.193  46.391  24.441  1.00 29.66           S
ATOM   1713  N   LEU A 227      24.133  43.455  28.483  1.00 28.37           N
ATOM   1714  CA  LEU A 227      23.469  42.390  29.242  1.00 28.53           C
ATOM   1715  C   LEU A 227      23.760  42.287  30.737  1.00 27.80           C
ATOM   1716  O   LEU A 227      23.117  41.540  31.465  1.00 26.98           O
ATOM   1717  CB  LEU A 227      23.701  41.062  28.531  1.00 28.86           C
ATOM   1718  CG  LEU A 227      22.853  41.135  27.246  1.00 30.66           C
ATOM   1719  CD1 LEU A 227      23.335  40.152  26.186  1.00 32.05           C
ATOM   1720  CD2 LEU A 227      21.389  40.812  27.590  1.00 30.73           C
ATOM   1721  N   TYR A 228      24.760  43.016  31.170  1.00 28.05           N
ATOM   1722  CA  TYR A 228      25.034  43.219  32.596  1.00 28.59           C
ATOM   1723  C   TYR A 228      25.051  41.978  33.504  1.00 29.27           C
ATOM   1724  O   TYR A 228      24.253  41.863  34.483  1.00 29.59           O
ATOM   1725  CB  TYR A 228      24.026  44.213  33.157  1.00 28.04           C
ATOM   1726  CG  TYR A 228      24.019  45.556  32.464  1.00 28.00           C
ATOM   1727  CD1 TYR A 228      24.839  46.584  32.881  1.00 27.54           C
ATOM   1728  CD2 TYR A 228      23.177  45.799  31.389  1.00 28.83           C
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ATOM   1729  CE1 TYR A 228      24.826  47.828  32.248  1.00 27.44           C
ATOM   1730  CE2 TYR A 228      23.160  47.018  30.745  1.00 27.63           C
ATOM   1731  CZ  TYR A 228      23.964  48.040  31.186  1.00 29.01           C
ATOM   1732  OH  TYR A 228      23.924  49.260  30.536  1.00 28.98           O
ATOM   1733  N   PRO A 229      26.009  41.101  33.261  1.00 28.11           N
ATOM   1734  CA  PRO A 229      26.146  39.900  34.082  1.00 28.54           C
ATOM   1735  C   PRO A 229      26.424  40.223  35.534  1.00 27.88           C
ATOM   1736  O   PRO A 229      27.085  41.212  35.786  1.00 28.01           O
ATOM   1737  CB  PRO A 229      27.396  39.214  33.494  1.00 28.67           C
ATOM   1738  CG  PRO A 229      28.116  40.314  32.802  1.00 28.96           C
ATOM   1739  CD  PRO A 229      27.046  41.191  32.231  1.00 28.25           C
ATOM   1740  N   TYR A 230      25.981  39.372  36.453  1.00 26.80           N
ATOM   1741  CA  TYR A 230      26.296  39.542  37.840  1.00 25.91           C
ATOM   1742  C   TYR A 230      27.838  39.508  38.028  1.00 25.72           C
ATOM   1743  O   TYR A 230      28.582  39.094  37.167  1.00 25.79           O
ATOM   1744  CB  TYR A 230      25.673  38.431  38.677  1.00 25.13           C
ATOM   1745  CG  TYR A 230      24.193  38.523  38.900  1.00 24.95           C
ATOM   1746  CD1 TYR A 230      23.289  38.036  37.933  1.00 24.25           C
ATOM   1747  CD2 TYR A 230      23.675  39.063  40.090  1.00 25.16           C
ATOM   1748  CE1 TYR A 230      21.944  38.105  38.139  1.00 24.40           C
ATOM   1749  CE2 TYR A 230      22.311  39.114  40.320  1.00 23.86           C
ATOM   1750  CZ  TYR A 230      21.464  38.647  39.336  1.00 26.74           C
ATOM   1751  OH  TYR A 230      20.122  38.713  39.501  1.00 34.04           O
ATOM   1752  N   PRO A 231      28.309  39.966  39.167  1.00 25.05           N
ATOM   1753  CA  PRO A 231      29.711  39.806  39.517  1.00 24.73           C
ATOM   1754  C   PRO A 231      30.151  38.318  39.500  1.00 24.94           C
ATOM   1755  O   PRO A 231      29.359  37.410  39.817  1.00 24.30           O
ATOM   1756  CB  PRO A 231      29.760  40.353  40.957  1.00 25.28           C
ATOM   1757  CG  PRO A 231      28.613  41.331  41.016  1.00 25.28           C
ATOM   1758  CD  PRO A 231      27.535  40.687  40.198  1.00 24.73           C
ATOM   1759  N   VAL A 232      31.419  38.086  39.173  1.00 23.75           N
ATOM   1760  CA  VAL A 232      31.898  36.766  39.055  1.00 24.45           C
ATOM   1761  C   VAL A 232      31.725  35.935  40.351  1.00 24.83           C
ATOM   1762  O   VAL A 232      31.402  34.754  40.263  1.00 24.83           O
ATOM   1763  CB  VAL A 232      33.375  36.761  38.582  1.00 25.13           C
ATOM   1764  CG1 VAL A 232      33.974  35.405  38.828  1.00 23.91           C
ATOM   1765  CG2 VAL A 232      33.481  37.091  37.092  1.00 23.86           C
ATOM   1766  N   HIS A 233      31.886  36.540  41.525  1.00 25.24           N
ATOM   1767  CA  HIS A 233      31.766  35.806  42.790  1.00 26.43           C
ATOM   1768  C   HIS A 233      30.321  35.656  43.304  1.00 26.47           C
ATOM   1769  O   HIS A 233      30.052  34.986  44.289  1.00 26.08           O
ATOM   1770  CB  HIS A 233      32.617  36.475  43.855  1.00 26.65           C
ATOM   1771  CG  HIS A 233      34.078  36.428  43.564  1.00 28.51           C
ATOM   1772  ND1 HIS A 233      34.764  37.493  43.013  1.00 30.95           N
ATOM   1773  CD2 HIS A 233      34.987  35.435  43.730  1.00 29.75           C
ATOM   1774  CE1 HIS A 233      36.043  37.169  42,888  1.00 31.18           C
ATOM   1775  NE2 HIS A 233      36.201  35.919  43.302  1.00 32.10           N
ATOM   1776  N   HIS A 234      29.391  36.283  42.626  1.00 26.94           N
ATOM   1777  CA  HIS A 234      27.999  36.141  42.983  1.00 27.89           C
ATOM   1778  C   HIS A 234      27.456  34.838  42.411  1.00 27.85           C
ATOM   1779  O   HIS A 234      27.871  34.403  41.384  1.00 27.14           O
ATOM   1780  CB  HIS A 234      27.219  37.258  42.372  1.00 28.20           C
ATOM   1781  CG  HIS A 234      25.782  37.279  42.748  1.00 27.95           C
ATOM   1782  ND1 HIS A 234      24.840  36.514  42.092  1.00 30.05           N
ATOM   1783  CD2 HIS A 234      25.105  38.057  43.624  1.00 26.43           C
ATOM   1784  CE1 HIS A 234      23.644  36.789  42.588  1.00 29.87           C
ATOM   1785  NE2 HIS A 234      23.781  37.714  43.524  1.00 27.85           N
ATOM   1786  N   PRO A 235      26.561  34.197  43.130  1.00 28.44           N
ATOM   1787  CA  PRO A 235      26.018  32.929  42.678  1.00 28.87           C
ATOM   1788  C   PRO A 235      25.431  32.956  41.294  1.00 28.34           C
ATOM   1789  O   PRO A 235      25.387  31.884  40.716  1.00 28.04           O
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ATOM	1790	CB	PRO	A	235	24.931	32.636	43.713	1.00	29.59	C
ATOM	1791	CG	PRO	A	235	25.473	33.290	44.975	1.00	29.10	C
ATOM	1792	CD	PRO	A	235	26.059	34.571	44.466	1.00	28.17	C
ATOM	1793	N	CYS	A	236	25.021	34.112	40.770	1.00	27.29	N
ATOM	1794	CA	CYS	A	236	24.447	34.135	39.455	1.00	26.15	C
ATOM	1795	C	CYS	A	236	25.478	34.602	38.451	1.00	25.39	C
ATOM	1796	O	CYS	A	236	25.140	35.102	37.361	1.00	26.21	O
ATOM	1797	CB	CYS	A	236	23.158	34.923	39.436	1.00	26.36	C
ATOM	1798	SG	CYS	A	236	21.908	34.207	40.555	1.00	29.77	S
ATOM	1799	N	ASP	A	237	26.746	34.411	38.803	1.00	24.07	N
ATOM	1800	CA	ASP	A	237	27.830	34.528	37.855	1.00	24.53	C
ATOM	1801	C	ASP	A	237	27.441	33.977	36.467	1.00	24.31	C
ATOM	1802	O	ASP	A	237	26.966	32.865	36.344	1.00	23.00	O
ATOM	1803	CB	ASP	A	237	29.018	33.769	38.353	1.00	24.42	C
ATOM	1804	CG	ASP	A	237	30.233	33.850	37.414	1.00	28.30	C
ATOM	1805	OD1	ASP	A	237	30.433	34.877	36.673	1.00	29.51	O
ATOM	1806	OD2	ASP	A	237	31.071	32.900	37.386	1.00	29.51	O
ATOM	1807	N	ARG	A	238	27.633	34.803	35.445	1.00	24.85	N
ATOM	1808	CA	ARG	A	238	27.388	34.434	34.041	1.00	26.59	C
ATOM	1809	C	ARG	A	238	25.921	34.663	33.595	1.00	25.95	C
ATOM	1810	O	ARG	A	238	25.647	34.628	32.426	1.00	26.55	O
ATOM	1811	CB	ARG	A	238	27.834	32.994	33.737	1.00	26.57	C
ATOM	1812	CG	ARG	A	238	29.311	32.758	33.891	1.00	27.77	C
ATOM	1813	CD	ARG	A	238	29.727	31.360	33.399	1.00	28.78	C
ATOM	1814	NE	ARG	A	238	29.142	30.434	34.337	1.00	33.68	N
ATOM	1815	CZ	ARG	A	238	28.046	29.736	34.140	1.00	36.98	C
ATOM	1816	NH1	ARG	A	238	27.383	29.782	32.980	1.00	38.06	N
ATOM	1817	NH2	ARG	A	238	27.609	28.987	35.129	1.00	37.87	N
ATOM	1818	N	GLN	A	239	25.012	34.933	34.516	1.00	25.97	N
ATOM	1819	CA	GLN	A	239	23.634	35.245	34.152	1.00	26.05	C
ATOM	1820	C	GLN	A	239	23.478	36.776	34.037	1.00	26.67	C
ATOM	1821	O	GLN	A	239	24.196	37.531	34.699	1.00	27.33	O
ATOM	1822	CB	GLN	A	239	22.663	34.724	35.201	1.00	25.55	C
ATOM	1823	CG	GLN	A	239	23.027	33.417	35.843	1.00	27.73	C
ATOM	1824	CD	GLN	A	239	23.246	32.282	34.859	1.00	31.42	C
ATOM	1825	OE1	GLN	A	239	22.332	31.881	34.133	1.00	34.43	O
ATOM	1826	NE2	GLN	A	239	24.457	31.761	34.835	1.00	31.35	N
ATOM	1827	N	SER	A	240	22.569	37.233	33.185	1.00	26.94	N
ATOM	1828	CA	SER	A	240	22.293	38.653	33.034	1.00	26.93	C
ATOM	1829	C	SER	A	240	21.490	39.118	34.229	1.00	26.78	C
ATOM	1830	O	SER	A	240	20.642	38.389	34.703	1.00	27.00	O
ATOM	1831	CB	SER	A	240	21.414	38.891	31.818	1.00	26.95	C
ATOM	1832	OG	SER	A	240	20.916	40.234	31.804	1.00	27.75	O
ATOM	1833	N	GLN	A	241	21.733	40.331	34.696	1.00	26.90	N
ATOM	1834	CA	GLN	A	241	20.963	40.903	35.816	1.00	27.25	C
ATOM	1835	C	GLN	A	241	19.632	41.520	35.311	1.00	27.84	C
ATOM	1836	O	GLN	A	241	18.763	41.866	36.104	1.00	27.28	O
ATOM	1837	CB	GLN	A	241	21.734	42.009	36.546	1.00	26.21	C
ATOM	1838	CG	GLN	A	241	22.971	41.636	37.344	1.00	26.53	C
ATOM	1839	CD	GLN	A	241	23.740	42.877	37.817	1.00	26.65	C
ATOM	1840	OE1	GLN	A	241	23.436	43.425	38.859	1.00	31.02	O
ATOM	1841	NE2	GLN	A	241	24.714	43.318	37.048	1.00	28.00	N
ATOM	1842	N	VAL	A	242	19.464	41.657	34.004	1.00	28.19	N
ATOM	1843	CA	VAL	A	242	18.284	42.335	33.552	1.00	28.55	C
ATOM	1844	C	VAL	A	242	17.117	41.409	33.563	1.00	28.88	C
ATOM	1845	O	VAL	A	242	17.198	40.314	33.053	1.00	28.92	O
ATOM	1846	CB	VAL	A	242	18.422	42.770	32.093	1.00	29.31	C
ATOM	1847	CG1	VAL	A	242	17.165	43.549	31.647	1.00	27.90	C
ATOM	1848	CG2	VAL	A	242	19.711	43.530	31.866	1.00	28.67	C
ATOM	1849	N	ASP	A	243	16.009	41.862	34.113	1.00	28.55	N
ATOM	1850	CA	ASP	A	243	14.766	41.103	34.052	1.00	27.62	C

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ATOM   1851  C   ASP A 243      14.121  41.396  32.709  1.00 27.45           C
ATOM   1852  O   ASP A 243      13.579  42.480  32.452  1.00 25.90           O
ATOM   1853  CB  ASP A 243      13.876  41.560  35.193  1.00 27.99           C
ATOM   1854  CG  ASP A 243      12.509  40.945  35.177  1.00 29.40           C
ATOM   1855  OD1 ASP A 243      12.096  40.291  34.179  1.00 31.46           O
ATOM   1856  OD2 ASP A 243      11.747  41.110  36.161  1.00 32.65           O
ATOM   1857  N   PHE A 244      14.180  40.419  31.825  1.00 28.27           N
ATOM   1858  CA  PHE A 244      13.656  40.603  30.496  1.00 28.92           C
ATOM   1859  C   PHE A 244      12.172  40.975  30.481  1.00 30.32           C
ATOM   1860  O   PHE A 244      11.728  41.643  29.561  1.00 31.01           O
ATOM   1861  CB  PHE A 244      13.900  39.369  29.657  1.00 29.32           C
ATOM   1862  CG  PHE A 244      15.255  39.298  29.053  1.00 28.51           C
ATOM   1863  CD1 PHE A 244      16.397  39.628  29.775  1.00 31.29           C
ATOM   1864  CD2 PHE A 244      15.399  38.853  27.793  1.00 28.23           C
ATOM   1865  CE1 PHE A 244      17.649  39.535  29.196  1.00 29.39           C
ATOM   1866  CE2 PHE A 244      16.654  38.736  27.229  1.00 30.79           C
ATOM   1867  CZ  PHE A 244      17.759  39.107  27.919  1.00 29.44           C
ATOM   1868  N   ASP A 245      11.401  40.551  31.482  1.00 31.22           N
ATOM   1869  CA  ASP A 245      10.007  40.913  31.544  1.00 31.40           C
ATOM   1870  C   ASP A 245       9.770  42.349  32.032  1.00 31.91           C
ATOM   1871  O   ASP A 245       8.704  42.891  31.786  1.00 30.40           O
ATOM   1872  CB  ASP A 245       9.263  39.968  32.467  1.00 32.57           C
ATOM   1873  CG  ASP A 245       9.292  38.546  31.988  1.00 33.29           C
ATOM   1874  OD1 ASP A 245       9.289  38.333  30.768  1.00 35.51           O
ATOM   1875  OD2 ASP A 245       9.348  37.577  32.764  1.00 35.50           O
ATOM   1876  N   ASN A 246      10.735  42.954  32.731  1.00 32.07           N
ATOM   1877  CA  ASN A 246      10.562  44.310  33.244  1.00 33.10           C
ATOM   1878  C   ASN A 246      11.884  45.016  33.384  1.00 32.49           C
ATOM   1879  O   ASN A 246      12.400  45.179  34.476  1.00 33.20           O
ATOM   1880  CB  ASN A 246       9.873  44.296  34.603  1.00 33.31           C
ATOM   1881  CG  ASN A 246       9.555  45.716  35.110  1.00 39.27           C
ATOM   1882  OD1 ASN A 246       9.331  46.678  34.313  1.00 43.28           O
ATOM   1883  ND2 ASN A 246       9.551  45.867  36.445  1.00 44.32           N
ATOM   1884  N   PRO A 247      12.472  45.374  32.265  1.00 31.66           N
ATOM   1885  CA  PRO A 247      13.822  45.936  32.263  1.00 31.26           C
ATOM   1886  C   PRO A 247      13.924  47.298  32.933  1.00 31.58           C
ATOM   1887  O   PRO A 247      13.185  48.211  32.629  1.00 31.85           O
ATOM   1888  CB  PRO A 247      14.161  46.082  30.782  1.00 31.22           C
ATOM   1889  CG  PRO A 247      13.017  45.510  30.022  1.00 31.05           C
ATOM   1890  CD  PRO A 247      11.894  45.216  30.928  1.00 31.01           C
ATOM   1891  N   ASP A 248      14.893  47.422  33.815  1.00 31.35           N
ATOM   1892  CA  ASP A 248      15.161  48.643  34.467  1.00 31.48           C
ATOM   1893  C   ASP A 248      16.222  49.413  33.650  1.00 31.23           C
ATOM   1894  O   ASP A 248      17.422  49.217  33.784  1.00 30.76           O
ATOM   1895  CB  ASP A 248      15.646  48.310  35.850  1.00 31.60           C
ATOM   1896  CG  ASP A 248      15.745  49.504  36.720  1.00 33.62           C
ATOM   1897  OD1 ASP A 248      16.020  50.619  36.201  1.00 34.39           O
ATOM   1898  OD2 ASP A 248      15.578  49.395  37.949  1.00 38.39           O
ATOM   1899  N   TYR A 249      15.764  50.285  32.783  1.00 31.95           N
ATOM   1900  CA  TYR A 249      16.676  51.053  31.942  1.00 32.80           C
ATOM   1901  C   TYR A 249      17.534  52.052  32.714  1.00 33.92           C
ATOM   1902  O   TYR A 249      18.558  52.490  32.203  1.00 34.33           O
ATOM   1903  CB  TYR A 249      15.906  51.732  30.825  1.00 32.56           C
ATOM   1904  CG  TYR A 249      15.183  50.751  29.928  1.00 31.41           C
ATOM   1905  CD1 TYR A 249      15.859  49.695  29.316  1.00 30.27           C
ATOM   1906  CD2 TYR A 249      13.845  50.868  29.704  1.00 29.24           C
ATOM   1907  CE1 TYR A 249      15.205  48.814  28.478  1.00 29.30           C
ATOM   1908  CE2 TYR A 249      13.178  49.968  28.894  1.00 29.24           C
ATOM   1909  CZ  TYR A 249      13.858  48.947  28.285  1.00 29.20           C
ATOM   1910  OH  TYR A 249      13.173  48.078  27.452  1.00 29.69           O
ATOM   1911  N   GLU A 250      17.155  52.369  33.952  1.00 34.69           N
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ATOM   1912  CA  GLU A 250      17.994  53.202  34.789  1.00 35.66           C
ATOM   1913  C   GLU A 250      19.249  52.494  35.235  1.00 34.69           C
ATOM   1914  O   GLU A 250      20.313  53.077  35.207  1.00 34.29           O
ATOM   1915  CB  GLU A 250      17.252  53.685  36.021  1.00 36.82           C
ATOM   1916  CG  GLU A 250      16.115  54.609  35.650  1.00 41.99           C
ATOM   1917  CD  GLU A 250      15.554  55.360  36.827  1.00 48.02           C
ATOM   1918  OE1 GLU A 250      16.114  55.275  37.949  1.00 53.95           O
ATOM   1919  OE2 GLU A 250      14.543  56.043  36.614  1.00 52.47           O
ATOM   1920  N   ARG A 251      19.139  51.254  35.691  1.00 33.87           N
ATOM   1921  CA  ARG A 251      20.335  50.550  36.088  1.00 33.26           C
ATOM   1922  C   ARG A 251      21.013  49.992  34.873  1.00 32.36           C
ATOM   1923  O   ARG A 251      22.210  49.914  34.849  1.00 32.79           O
ATOM   1924  CB  ARG A 251      20.040  49.425  37.066  1.00 34.36           C
ATOM   1925  CG  ARG A 251      19.476  49.895  38.425  1.00 36.13           C
ATOM   1926  CD  ARG A 251      18.966  48.771  39.339  1.00 39.31           C
ATOM   1927  NE  ARG A 251      20.052  47.860  39.733  1.00 42.09           N
ATOM   1928  CZ  ARG A 251      19.890  46.563  39.964  1.00 41.90           C
ATOM   1929  NH1 ARG A 251      18.696  46.006  39.843  1.00 41.62           N
ATOM   1930  NH2 ARG A 251      20.932  45.815  40.296  1.00 41.98           N
ATOM   1931  N   PHE A 252      20.272  49.654  33.825  1.00 31.66           N
ATOM   1932  CA  PHE A 252      20.879  48.977  32.677  1.00 30.28           C
ATOM   1933  C   PHE A 252      20.528  49.651  31.347  1.00 29.72           C
ATOM   1934  O   PHE A 252      19.882  49.096  30.483  1.00 29.84           O
ATOM   1935  CB  PHE A 252      20.420  47.531  32.675  1.00 29.99           C
ATOM   1936  CG  PHE A 252      20.405  46.864  34.050  1.00 29.63           C
ATOM   1937  CD1 PHE A 252      21.562  46.717  34.796  1.00 29.74           C
ATOM   1938  CD2 PHE A 252      19.238  46.317  34.554  1.00 31.30           C
ATOM   1939  CE1 PHE A 252      21.546  46.067  36.039  1.00 30.44           C
ATOM   1940  CE2 PHE A 252      19.199  45.668  35.805  1.00 31.42           C
ATOM   1941  CZ  PHE A 252      20.356  45.551  36.550  1.00 32.04           C
ATOM   1942  N   PRO A 253      21.034  50.844  31.155  1.00 29.72           N
ATOM   1943  CA  PRO A 253      20.607  51.662  30.022  1.00 28.89           C
ATOM   1944  C   PRO A 253      20.953  50.996  28.689  1.00 29.46           C
ATOM   1945  O   PRO A 253      20.166  51.061  27.722  1.00 28.81           O
ATOM   1946  CB  PRO A 253      21.361  52.975  30.240  1.00 28.37           C
ATOM   1947  CG  PRO A 253      22.543  52.614  31.155  1.00 27.97           C
ATOM   1948  CD  PRO A 253      22.136  51.463  31.942  1.00 29.24           C
ATOM   1949  N   ASN A 254      22.093  50.323  28.590  1.00 29.37           N
ATOM   1950  CA  ASN A 254      22.401  49.742  27.274  1.00 28.85           C
ATOM   1951  C   ASN A 254      21.547  48.529  26.902  1.00 28.28           C
ATOM   1952  O   ASN A 254      21.663  47.970  25.794  1.00 27.47           O
ATOM   1953  CB  ASN A 254      23.874  49.407  27.122  1.00 28.84           C
ATOM   1954  CG  ASN A 254      24.745  50.654  26.996  1.00 29.96           C
ATOM   1955  OD1 ASN A 254      25.622  50.882  27.834  1.00 31.21           O
ATOM   1956  ND2 ASN A 254      24.531  51.443  25.931  1.00 29.17           N
ATOM   1957  N   PHE A 255      20.687  48.091  27.797  1.00 27.30           N
ATOM   1958  CA  PHE A 255      19.801  47.006  27.368  1.00 27.53           C
ATOM   1959  C   PHE A 255      18.844  47.512  26.283  1.00 26.80           C
ATOM   1960  O   PHE A 255      18.193  46.750  25.603  1.00 27.22           O
ATOM   1961  CB  PHE A 255      19.015  46.448  28.538  1.00 27.48           C
ATOM   1962  CG  PHE A 255      18.282  45.250  28.198  1.00 26.63           C
ATOM   1963  CD1 PHE A 255      18.950  44.073  27.998  1.00 29.74           C
ATOM   1964  CD2 PHE A 255      16.935  45.288  28.039  1.00 26.29           C
ATOM   1965  CE1 PHE A 255      18.273  42.947  27.681  1.00 29.50           C
ATOM   1966  CE2 PHE A 255      16.261  44.192  27.692  1.00 26.21           C
ATOM   1967  CZ  PHE A 255      16.917  43.012  27.518  1.00 30.10           C
ATOM   1968  N   GLN A 256      18.776  48.818  26.125  1.00 26.57           N
ATOM   1969  CA  GLN A 256      17.918  49.429  25.137  1.00 26.55           C
ATOM   1970  C   GLN A 256      18.522  49.253  23.745  1.00 26.46           C
ATOM   1971  O   GLN A 256      17.881  49.560  22.771  1.00 24.39           O
ATOM   1972  CB  GLN A 256      17.756  50.933  25.423  1.00 26.18           C
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ATOM   1973  CG  GLN A 256      16.656  51.226  26.406  1.00 28.72           C
ATOM   1974  CD  GLN A 256      16.721  52.636  27.028  1.00 29.64           C
ATOM   1975  OE1 GLN A 256      15.737  53.358  27.005  1.00 32.56           O
ATOM   1976  NE2 GLN A 256      17.861  52.999  27.590  1.00 26.88           N
ATOM   1977  N   ASN A 257      19.774  48.809  23.694  1.00 27.86           N
ATOM   1978  CA  ASN A 257      20.509  48.611  22.452  1.00 29.22           C
ATOM   1979  C   ASN A 257      20.733  47.143  22.116  1.00 30.46           C
ATOM   1980  O   ASN A 257      21.399  46.855  21.132  1.00 32.28           O
ATOM   1981  CB  ASN A 257      21.897  49.232  22.510  1.00 28.50           C
ATOM   1982  CG  ASN A 257      21.878  50.666  22.890  1.00 29.30           C
ATOM   1983  OD1 ASN A 257      22.329  51.025  23.989  1.00 27.33           O
ATOM   1984  ND2 ASN A 257      21.382  51.523  21.982  1.00 25.68           N
ATOM   1985  N   VAL A 258      20.200  46.213  22.900  1.00 31.51           N
ATOM   1986  CA  VAL A 258      20.432  44.791  22.623  1.00 32.54           C
ATOM   1987  C   VAL A 258      19.674  44.295  21.386  1.00 32.39           C
ATOM   1988  O   VAL A 258      18.543  44.766  21.081  1.00 32.29           O
ATOM   1989  CB  VAL A 258      20.050  43.937  23.841  1.00 33.12           C
ATOM   1990  CG1 VAL A 258      18.546  43.818  23.986  1.00 32.40           C
ATOM   1991  CG2 VAL A 258      20.646  42.566  23.686  1.00 36.78           C
ATOM   1992  N   VAL A 259      20.302  43.386  20.654  1.00 32.45           N
ATOM   1993  CA  VAL A 259      19.682  42.796  19.448  1.00 32.96           C
ATOM   1994  C   VAL A 259      19.943  41.301  19.391  1.00 33.08           C
ATOM   1995  O   VAL A 259      21.074  40.878  19.351  1.00 33.50           O
ATOM   1996  CB  VAL A 259      20.269  43.401  18.172  1.00 33.19           C
ATOM   1997  CG1 VAL A 259      19.625  42.771  16.962  1.00 34.73           C
ATOM   1998  CG2 VAL A 259      20.054  44.901  18.143  1.00 32.25           C
ATOM   1999  N   GLY A 260      18.902  40.491  19.406  1.00 33.70           N
ATOM   2000  CA  GLY A 260      19.091  39.052  19.368  1.00 34.16           C
ATOM   2001  C   GLY A 260      19.036  38.327  18.014  1.00 33.92           C
ATOM   2002  O   GLY A 260      18.655  38.891  16.975  1.00 33.59           O
ATOM   2003  N   TYR A 261      19.469  37.071  18.052  1.00 33.14           N
ATOM   2004  CA  TYR A 261      19.375  36.157  16.938  1.00 33.55           C
ATOM   2005  C   TYR A 261      18.439  35.095  17.489  1.00 33.41           C
ATOM   2006  O   TYR A 261      18.700  34.542  18.561  1.00 33.67           O
ATOM   2007  CB  TYR A 261      20.715  35.508  16.657  1.00 33.81           C
ATOM   2008  CG  TYR A 261      21.758  36.416  16.061  1.00 36.80           C
ATOM   2009  CD1 TYR A 261      21.886  36.545  14.694  1.00 42.37           C
ATOM   2010  CD2 TYR A 261      22.602  37.139  16.851  1.00 38.31           C
ATOM   2011  CE1 TYR A 261      22.823  37.378  14.139  1.00 43.02           C
ATOM   2012  CE2 TYR A 261      23.556  37.938  16.312  1.00 40.85           C
ATOM   2013  CZ  TYR A 261      23.660  38.058  14.955  1.00 42.50           C
ATOM   2014  OH  TYR A 261      24.617  38.865  14.414  1.00 45.43           O
ATOM   2015  N   GLU A 262      17.322  34.832  16.834  1.00 32.71           N
ATOM   2016  CA  GLU A 262      16.394  33.886  17.438  1.00 32.21           C
ATOM   2017  C   GLU A 262      15.975  32.768  16.508  1.00 30.89           C
ATOM   2018  O   GLU A 262      16.180  32.819  15.294  1.00 30.63           O
ATOM   2019  CB  GLU A 262      15.196  34.613  18.049  1.00 32.16           C
ATOM   2020  CG  GLU A 262      13.968  34.753  17.210  1.00 30.84           C
ATOM   2021  CD  GLU A 262      12.818  35.380  17.992  1.00 31.21           C
ATOM   2022  OE1 GLU A 262      12.761  36.612  18.108  1.00 34.58           O
ATOM   2023  OE2 GLU A 262      11.962  34.663  18.504  1.00 29.56           O
ATOM   2024  N   THR A 263      15.447  31.746  17.133  1.00 28.97           N
ATOM   2025  CA  THR A 263      14.941  30.587  16.447  1.00 28.44           C
ATOM   2026  C   THR A 263      14.080  29.743  17.387  1.00 27.24           C
ATOM   2027  O   THR A 263      14.088  29.893  18.620  1.00 26.43           O
ATOM   2028  CB  THR A 263      16.093  29.746  15.902  1.00 28.50           C
ATOM   2029  OG1 THR A 263      15.592  28.798  14.964  1.00 27.18           O
ATOM   2030  CG2 THR A 263      16.697  28.854  16.975  1.00 28.63           C
ATOM   2031  N   VAL A 264      13.306  28.887  16.776  1.00 27.22           N
ATOM   2032  CA  VAL A 264      12.509  27.942  17.497  1.00 28.49           C
ATOM   2033  C   VAL A 264      12.925  26.576  17.022  1.00 29.10           C
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ATOM	2034	O	VAL	A	264	12.876	26.279	15.828	1.00 28.47	O
ATOM	2035	CB	VAL	A	264	11.025	28.126	17.252	1.00 29.23	C
ATOM	2036	CG1	VAL	A	264	10.259	26.871	17.767	1.00 29.07	C
ATOM	2037	CG2	VAL	A	264	10.520	29.431	17.973	1.00 28.52	C
ATOM	2038	N	VAL	A	265	13.401	25.763	17.954	1.00 29.56	N
ATOM	2039	CA	VAL	A	265	13.806	24.413	17.594	1.00 29.83	C
ATOM	2040	C	VAL	A	265	12.785	23.404	18.039	1.00 29.63	C
ATOM	2041	O	VAL	A	265	12.188	23.544	19.105	1.00 29.93	O
ATOM	2042	CB	VAL	A	265	15.197	24.015	18.203	1.00 29.88	C
ATOM	2043	CG1	VAL	A	265	16.281	24.883	17.589	1.00 32.24	C
ATOM	2044	CG2	VAL	A	265	15.234	24.114	19.712	1.00 26.80	C
ATOM	2045	N	GLY	A	266	12.642	22.371	17.226	1.00 28.96	N
ATOM	2046	CA	GLY	A	266	11.770	21.268	17.513	1.00 28.86	C
ATOM	2047	C	GLY	A	266	12.463	19.909	17.428	1.00 28.32	C
ATOM	2048	O	GLY	A	266	13.656	19.804	17.215	1.00 28.58	O
ATOM	2049	N	PRO	A	267	11.696	18.852	17.581	1.00 28.06	N
ATOM	2050	CA	PRO	A	267	12.278	17.505	17.565	1.00 28.37	C
ATOM	2051	C	PRO	A	267	13.148	17.313	16.360	1.00 28.01	C
ATOM	2052	O	PRO	A	267	12.674	17.573	15.265	1.00 28.36	O
ATOM	2053	CB	PRO	A	267	11.047	16.582	17.482	1.00 27.55	C
ATOM	2054	CG	PRO	A	267	10.000	17.278	18.220	1.00 28.05	C
ATOM	2055	CD	PRO	A	267	10.237	18.817	17.827	1.00 28.28	C
ATOM	2056	N	GLY	A	268	14.392	16.878	16.562	1.00 27.37	N
ATOM	2057	CA	GLY	A	268	15.273	16.605	15.453	1.00 25.78	C
ATOM	2058	C	GLY	A	268	16.231	17.726	15.175	1.00 25.51	C
ATOM	2059	O	GLY	A	268	17.237	17.508	14.519	1.00 26.07	O
ATOM	2060	N	ASP	A	269	15.957	18.928	15.653	1.00 25.79	N
ATOM	2061	CA	ASP	A	269	16.835	20.044	15.354	1.00 25.78	C
ATOM	2062	C	ASP	A	269	17.996	20.091	16.377	1.00 26.28	C
ATOM	2063	O	ASP	A	269	17.848	19.689	17.549	1.00 26.27	O
ATOM	2064	CB	ASP	A	269	16.106	21.376	15.504	1.00 26.89	C
ATOM	2065	CG	ASP	A	269	14.898	21.583	14.603	1.00 25.99	C
ATOM	2066	OD1	ASP	A	269	14.745	20.966	13.562	1.00 28.50	O
ATOM	2067	OD2	ASP	A	269	14.065	22.495	14.853	1.00 29.93	O
ATOM	2068	N	VAL	A	270	19.128	20.632	15.937	1.00 26.28	N
ATOM	2069	CA	VAL	A	270	20.291	20.847	16.775	1.00 26.03	C
ATOM	2070	C	VAL	A	270	20.780	22.271	16.628	1.00 26.03	C
ATOM	2071	O	VAL	A	270	21.123	22.727	15.547	1.00 25.72	O
ATOM	2072	CB	VAL	A	270	21.414	19.938	16.381	1.00 25.76	C
ATOM	2073	CG1	VAL	A	270	22.675	20.325	17.113	1.00 26.27	C
ATOM	2074	CG2	VAL	A	270	21.060	18.546	16.735	1.00 25.93	C
ATOM	2075	N	LEU	A	271	20.809	22.987	17.730	1.00 26.47	N
ATOM	2076	CA	LEU	A	271	21.257	24.364	17.713	1.00 26.42	C
ATOM	2077	C	LEU	A	271	22.673	24.422	18.228	1.00 27.12	C
ATOM	2078	O	LEU	A	271	22.973	23.936	19.310	1.00 26.82	O
ATOM	2079	CB	LEU	A	271	20.372	25.235	18.570	1.00 26.20	C
ATOM	2080	CG	LEU	A	271	20.935	26.646	18.783	1.00 27.91	C
ATOM	2081	CD1	LEU	A	271	20.962	27.396	17.500	1.00 27.86	C
ATOM	2082	CD2	LEU	A	271	20.100	27.425	19.789	1.00 29.16	C
ATOM	2083	N	TYR	A	272	23.563	24.980	17.423	1.00 27.82	N
ATOM	2084	CA	TYR	A	272	24.913	25.201	17.873	1.00 27.79	C
ATOM	2085	C	TYR	A	272	24.918	26.494	18.662	1.00 26.67	C
ATOM	2086	O	TYR	A	272	24.660	27.528	18.117	1.00 27.22	O
ATOM	2087	CB	TYR	A	272	25.898	25.325	16.693	1.00 27.26	C
ATOM	2088	CG	TYR	A	272	27.296	25.785	17.124	1.00 28.18	C
ATOM	2089	CD1	TYR	A	272	27.924	25.237	18.221	1.00 28.32	C
ATOM	2090	CD2	TYR	A	272	27.973	26.784	16.435	1.00 29.06	C
ATOM	2091	CE1	TYR	A	272	29.169	25.653	18.600	1.00 28.29	C
ATOM	2092	CE2	TYR	A	272	29.232	27.188	16.805	1.00 27.19	C
ATOM	2093	CZ	TYR	A	272	29.821	26.632	17.903	1.00 27.41	C
ATOM	2094	OH	TYR	A	272	31.081	27.026	18.322	1.00 24.66	O

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ATOM   2095  N   ILE A 273      25.237  26.418  19.934  1.00 26.87           N
ATOM   2096  CA  ILE A 273      25.381  27.591  20.810  1.00 26.89           C
ATOM   2097  C   ILE A 273      26.841  27.751  21.182  1.00 27.37           C
ATOM   2098  O   ILE A 273      27.359  27.049  22.056  1.00 27.62           O
ATOM   2099  CB  ILE A 273      24.647  27.422  22.085  1.00 26.74           C
ATOM   2100  CG1 ILE A 273      23.182  27.185  21.799  1.00 25.89           C
ATOM   2101  CG2 ILE A 273      24.852  28.675  22.941  1.00 26.79           C
ATOM   2102  CD1 ILE A 273      22.338  27.108  23.065  1.00 25.37           C
ATOM   2103  N   PRO A 274      27.491  28.681  20.515  1.00 27.39           N
ATOM   2104  CA  PRO A 274      28.923  28.871  20.601  1.00 27.76           C
ATOM   2105  C   PRO A 274      29.287  29.415  21.934  1.00 27.42           C
ATOM   2106  O   PRO A 274      28.483  30.135  22.518  1.00 26.71           O
ATOM   2107  CB  PRO A 274      29.250  29.840  19.426  1.00 27.60           C
ATOM   2108  CG  PRO A 274      27.980  30.107  18.741  1.00 28.16           C
ATOM   2109  CD  PRO A 274      26.876  29.504  19.497  1.00 28.21           C
ATOM   2110  N   MET A 275      30.467  29.017  22.394  1.00 27.88           N
ATOM   2111  CA  MET A 275      30.979  29.346  23.717  1.00 28.91           C
ATOM   2112  C   MET A 275      30.974  30.849  23.919  1.00 28.27           C
ATOM   2113  O   MET A 275      31.284  31.589  23.000  1.00 27.69           O
ATOM   2114  CB  MET A 275      32.365  28.808  23.869  1.00 29.00           C
ATOM   2115  CG  MET A 275      32.861  28.842  25.313  1.00 34.03           C
ATOM   2116  SD  MET A 275      34.499  28.084  25.455  1.00 39.22           S
ATOM   2117  CE  MET A 275      35.200  28.479  23.871  1.00 36.40           C
ATOM   2118  N   TYR A 276      30.531  31.294  25.086  1.00 27.79           N
ATOM   2119  CA  TYR A 276      30.472  32.746  25.389  1.00 29.16           C
ATOM   2120  C   TYR A 276      29.267  33.465  24.802  1.00 27.80           C
ATOM   2121  O   TYR A 276      29.076  34.609  25.107  1.00 28.35           O
ATOM   2122  CB  TYR A 276      31.779  33.506  24.974  1.00 29.63           C
ATOM   2123  CG  TYR A 276      32.918  33.207  25.897  1.00 34.37           C
ATOM   2124  CD1 TYR A 276      32.966  33.783  27.146  1.00 38.52           C
ATOM   2125  CD2 TYR A 276      33.934  32.306  25.547  1.00 39.45           C
ATOM   2126  CE1 TYR A 276      33.955  33.493  28.022  1.00 39.83           C
ATOM   2127  CE2 TYR A 276      34.965  32.015  26.449  1.00 42.05           C
ATOM   2128  CZ  TYR A 276      34.954  32.609  27.685  1.00 42.46           C
ATOM   2129  OH  TYR A 276      35.949  32.343  28.624  1.00 48.60           O
ATOM   2130  N   TRP A 277      28.468  32.830  23.951  1.00 27.45           N
ATOM   2131  CA  TRP A 277      27.271  33.485  23.419  1.00 26.19           C
ATOM   2132  C   TRP A 277      26.160  33.442  24.424  1.00 25.93           C
ATOM   2133  O   TRP A 277      25.882  32.409  24.973  1.00 26.84           O
ATOM   2134  CB  TRP A 277      26.796  32.826  22.130  1.00 26.07           C
ATOM   2135  CG  TRP A 277      27.525  33.276  20.957  1.00 24.33           C
ATOM   2136  CD1 TRP A 277      28.862  33.118  20.731  1.00 24.81           C
ATOM   2137  CD2 TRP A 277      26.995  33.935  19.821  1.00 23.88           C
ATOM   2138  NE1 TRP A 277      29.204  33.674  19.531  1.00 24.86           N
ATOM   2139  CE2 TRP A 277      28.073  34.182  18.944  1.00 24.16           C
ATOM   2140  CE3 TRP A 277      25.727  34.398  19.464  1.00 25.16           C
ATOM   2141  CZ2 TRP A 277      27.923  34.858  17.747  1.00 23.53           C
ATOM   2142  CZ3 TRP A 277      25.579  35.064  18.250  1.00 25.92           C
ATOM   2143  CH2 TRP A 277      26.679  35.292  17.414  1.00 24.81           C
ATOM   2144  N   TRP A 278      25.516  34.566  24.673  1.00 26.34           N
ATOM   2145  CA  TRP A 278      24.408  34.623  25.625  1.00 26.96           C
ATOM   2146  C   TRP A 278      23.229  33.847  25.050  1.00 27.33           C
ATOM   2147  O   TRP A 278      23.021  33.846  23.847  1.00 27.18           O
ATOM   2148  CB  TRP A 278      23.952  36.062  25.838  1.00 26.87           C
ATOM   2149  CG  TRP A 278      24.965  36.916  26.455  1.00 27.61           C
ATOM   2150  CD1 TRP A 278      25.997  37.558  25.833  1.00 28.27           C
ATOM   2151  CD2 TRP A 278      25.065  37.228  27.830  1.00 25.52           C
ATOM   2152  NE1 TRP A 278      26.731  38.261  26.753  1.00 28.77           N
ATOM   2153  CE2 TRP A 278      26.164  38.072  27.991  1.00 29.02           C
ATOM   2154  CE3 TRP A 278      24.303  36.915  28.942  1.00 26.86           C
ATOM   2155  CZ2 TRP A 278      26.541  38.563  29.224  1.00 28.96           C
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ATOM   2156  CZ3 TRP A 278      24.676  37.402  30.157  1.00 29.86           C
ATOM   2157  CH2 TRP A 278      25.780  38.224  30.293  1.00 27.89           C
ATOM   2158  N   HIS A 279      22.455  33.193  25.890  1.00 27.47           N
ATOM   2159  CA  HIS A 279      21.263  32.554  25.380  1.00 28.50           C
ATOM   2160  C   HIS A 279      20.158  32.574  26.403  1.00 28.09           C
ATOM   2161  O   HIS A 279      20.420  32.445  27.584  1.00 29.26           O
ATOM   2162  CB  HIS A 279      21.528  31.112  24.899  1.00 28.46           C
ATOM   2163  CG  HIS A 279      22.339  30.278  25.838  1.00 30.29           C
ATOM   2164  ND1 HIS A 279      23.712  30.381  25.928  1.00 31.17           N
ATOM   2165  CD2 HIS A 279      21.984  29.270  26.673  1.00 31.89           C
ATOM   2166  CE1 HIS A 279      24.161  29.484  26.790  1.00 31.48           C
ATOM   2167  NE2 HIS A 279      23.136  28.810  27.271  1.00 30.92           N
ATOM   2168  N   HIS A 280      18.942  32.764  25.916  1.00 28.12           N
ATOM   2169  CA  HIS A 280      17.713  32.827  26.695  1.00 28.50           C
ATOM   2170  C   HIS A 280      16.884  31.731  26.071  1.00 28.78           C
ATOM   2171  O   HIS A 280      16.739  31.709  24.851  1.00 29.67           O
ATOM   2172  CB  HIS A 280      17.069  34.196  26.498  1.00 27.71           C
ATOM   2173  CG  HIS A 280      15.600  34.223  26.727  1.00 29.69           C
ATOM   2174  ND1 HIS A 280      15.021  34.905  27.782  1.00 31.66           N
ATOM   2175  CD2 HIS A 280      14.579  33.648  26.047  1.00 31.45           C
ATOM   2176  CE1 HIS A 280      13.710  34.743  27.738  1.00 30.66           C
ATOM   2177  NE2 HIS A 280      13.415  33.985  26.696  1.00 31.28           N
ATOM   2178  N   ILE A 281      16.346  30.814  26.860  1.00 29.23           N
ATOM   2179  CA  ILE A 281      15.651  29.652  26.294  1.00 29.56           C
ATOM   2180  C   ILE A 281      14.311  29.497  26.922  1.00 30.16           C
ATOM   2181  O   ILE A 281      14.190  29.517  28.135  1.00 30.14           O
ATOM   2182  CB  ILE A 281      16.478  28.409  26.516  1.00 29.69           C
ATOM   2183  CG1 ILE A 281      17.707  28.491  25.628  1.00 30.69           C
ATOM   2184  CG2 ILE A 281      15.686  27.119  26.172  1.00 28.22           C
ATOM   2185  CD1 ILE A 281      18.689  27.534  25.980  1.00 33.11           C
ATOM   2186  N   GLU A 282      13.280  29.380  26.103  1.00 31.22           N
ATOM   2187  CA  GLU A 282      11.931  29.278  26.665  1.00 31.99           C
ATOM   2188  C   GLU A 282      11.123  28.182  26.007  1.00 31.79           C
ATOM   2189  O   GLU A 282      11.131  28.021  24.806  1.00 32.77           O
ATOM   2190  CB  GLU A 282      11.200  30.638  26.618  1.00 32.16           C
ATOM   2191  CG  GLU A 282      11.017  31.265  25.253  1.00 33.49           C
ATOM   2192  CD  GLU A 282      10.378  32.663  25.313  1.00 36.22           C
ATOM   2193  OE1 GLU A 282      10.879  33.552  26.043  1.00 38.20           O
ATOM   2194  OE2 GLU A 282       9.380  32.898  24.603  1.00 38.15           O
ATOM   2195  N   SER A 283      10.454  27.392  26.827  1.00 31.81           N
ATOM   2196  CA  SER A 283       9.592  26.333  26.331  1.00 30.79           C
ATOM   2197  C   SER A 283       8.245  26.975  25.950  1.00 30.98           C
ATOM   2198  O   SER A 283       7.635  27.640  26.780  1.00 30.36           O
ATOM   2199  CB  SER A 283       9.430  25.305  27.424  1.00 30.62           C
ATOM   2200  OG  SER A 283      10.586  24.463  27.496  1.00 29.45           O
ATOM   2201  N   LEU A 284       7.776  26.790  24.709  1.00 31.06           N
ATOM   2202  CA  LEU A 284       6.587  27.504  24.270  1.00 31.43           C
ATOM   2203  C   LEU A 284       5.398  27.390  25.204  1.00 31.82           C
ATOM   2204  O   LEU A 284       5.137  26.333  25.776  1.00 31.15           O
ATOM   2205  CB  LEU A 284       6.156  27.098  22.895  1.00 31.75           C
ATOM   2206  CG  LEU A 284       7.223  27.187  21.829  1.00 33.11           C
ATOM   2207  CD1 LEU A 284       6.571  27.388  20.478  1.00 33.62           C
ATOM   2208  CD2 LEU A 284       8.170  28.270  22.142  1.00 32.91           C
ATOM   2209  N   LEU A 285       4.701  28.512  25.355  1.00 32.74           N
ATOM   2210  CA  LEU A 285       3.481  28.564  26.147  1.00 34.35           C
ATOM   2211  C   LEU A 285       2.502  27.591  25.540  1.00 34.74           C
ATOM   2212  O   LEU A 285       2.375  27.510  24.332  1.00 34.70           O
ATOM   2213  CB  LEU A 285       2.863  29.946  26.094  1.00 34.26           C
ATOM   2214  CG  LEU A 285       3.729  31.060  26.638  1.00 34.74           C
ATOM   2215  CD1 LEU A 285       3.183  32.369  26.160  1.00 34.14           C
ATOM   2216  CD2 LEU A 285       3.780  30.970  28.136  1.00 34.97           C
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ATOM   2217  N   ASN A 286       1.838  26.829  26.380  1.00 35.89           N
ATOM   2218  CA  ASN A 286       0.841  25.863  25.896  1.00 37.12           C
ATOM   2219  C   ASN A 286       1.363  24.809  24.909  1.00 36.14           C
ATOM   2220  O   ASN A 286       0.600  24.306  24.108  1.00 35.85           O
ATOM   2221  CB  ASN A 286      -0.336  26.635  25.274  1.00 37.80           C
ATOM   2222  CG  ASN A 286      -0.882  27.690  26.219  1.00 42.02           C
ATOM   2223  OD1 ASN A 286      -1.326  27.365  27.326  1.00 47.86           O
ATOM   2224  ND2 ASN A 286      -0.809  28.965  25.817  1.00 46.67           N
ATOM   2225  N   GLY A 287       2.653  24.478  24.974  1.00 35.43           N
ATOM   2226  CA  GLY A 287       3.262  23.539  24.057  1.00 34.11           C
ATOM   2227  C   GLY A 287       3.569  22.202  24.666  1.00 34.02           C
ATOM   2228  O   GLY A 287       4.073  21.317  23.977  1.00 34.98           O
ATOM   2229  N   GLY A 288       3.242  22.023  25.944  1.00 33.71           N
ATOM   2230  CA  GLY A 288       3.476  20.759  26.616  1.00 33.00           C
ATOM   2231  C   GLY A 288       4.908  20.692  27.107  1.00 33.19           C
ATOM   2232  O   GLY A 288       5.625  21.681  26.989  1.00 33.40           O
ATOM   2233  N   ILE A 289       5.337  19.540  27.621  1.00 32.87           N
ATOM   2234  CA  ILE A 289       6.647  19.425  28.195  1.00 33.57           C
ATOM   2235  C   ILE A 289       7.695  19.434  27.118  1.00 33.13           C
ATOM   2236  O   ILE A 289       7.454  19.023  25.995  1.00 34.41           O
ATOM   2237  CB  ILE A 289       6.809  18.137  29.006  1.00 34.25           C
ATOM   2238  CG1 ILE A 289       6.789  16.920  28.102  1.00 36.60           C
ATOM   2239  CG2 ILE A 289       5.746  18.005  30.113  1.00 34.91           C
ATOM   2240  CD1 ILE A 289       7.271  15.659  28.834  1.00 38.16           C
ATOM   2241  N   THR A 290       8.891  19.868  27.465  1.00 31.68           N
ATOM   2242  CA  THR A 290       9.956  19.853  26.498  1.00 29.79           C
ATOM   2243  C   THR A 290      11.054  18.938  26.958  1.00 27.97           C
ATOM   2244  O   THR A 290      11.256  18.739  28.133  1.00 26.58           O
ATOM   2245  CB  THR A 290      10.526  21.278  26.305  1.00 30.77           C
ATOM   2246  OG1 THR A 290      10.957  21.827  27.554  1.00 27.89           O
ATOM   2247  CG2 THR A 290       9.458  22.243  25.789  1.00 30.82           C
ATOM   2248  N   ILE A 291      11.787  18.395  26.021  1.00 26.96           N
ATOM   2249  CA  ILE A 291      12.910  17.594  26.383  1.00 27.83           C
ATOM   2250  C   ILE A 291      14.059  17.952  25.493  1.00 27.31           C
ATOM   2251  O   ILE A 291      13.880  18.028  24.289  1.00 27.83           O
ATOM   2252  CB  ILE A 291      12.596  16.104  26.195  1.00 28.72           C
ATOM   2253  CG1 ILE A 291      11.480  15.671  27.140  1.00 29.09           C
ATOM   2254  CG2 ILE A 291      13.865  15.278  26.438  1.00 28.55           C
ATOM   2255  CD1 ILE A 291      11.115  14.232  26.986  1.00 30.86           C
ATOM   2256  N   THR A 292      15.240  18.093  26.074  1.00 26.63           N
ATOM   2257  CA  THR A 292      16.415  18.444  25.333  1.00 26.88           C
ATOM   2258  C   THR A 292      17.587  17.724  25.915  1.00 26.52           C
ATOM   2259  O   THR A 292      17.631  17.524  27.102  1.00 26.40           O
ATOM   2260  CB  THR A 292      16.753  19.971  25.532  1.00 27.41           C
ATOM   2261  OG1 THR A 292      15.652  20.841  25.187  1.00 28.64           O
ATOM   2262  CG2 THR A 292      17.852  20.398  24.592  1.00 28.03           C
ATOM   2263  N   VAL A 293      18.577  17.414  25.093  1.00 26.32           N
ATOM   2264  CA  VAL A 293      19.834  16.896  25.585  1.00 26.86           C
ATOM   2265  C   VAL A 293      20.964  17.718  24.978  1.00 27.24           C
ATOM   2266  O   VAL A 293      21.011  17.892  23.757  1.00 26.60           O
ATOM   2267  CB  VAL A 293      20.029  15.422  25.226  1.00 27.56           C
ATOM   2268  CG1 VAL A 293      21.472  15.004  25.411  1.00 27.42           C
ATOM   2269  CG2 VAL A 293      19.138  14.546  26.126  1.00 29.64           C
ATOM   2270  N   ASN A 294      21.849  18.278  25.814  1.00 27.26           N
ATOM   2271  CA  ASN A 294      22.960  19.055  25.258  1.00 27.81           C
ATOM   2272  C   ASN A 294      24.253  18.268  25.281  1.00 27.79           C
ATOM   2273  O   ASN A 294      24.338  17.177  25.883  1.00 28.63           O
ATOM   2274  CB  ASN A 294      23.118  20.446  25.881  1.00 27.69           C
ATOM   2275  CG  ASN A 294      23.703  20.405  27.287  1.00 30.08           C
ATOM   2276  OD1 ASN A 294      24.309  19.397  27.677  1.00 29.80           O
ATOM   2277  ND2 ASN A 294      23.513  21.506  28.064  1.00 28.15           N
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ATOM   2278  N   PHE A 295      25.235  18.816  24.576  1.00 27.46           N
ATOM   2279  CA  PHE A 295      26.548  18.219  24.428  1.00 27.53           C
ATOM   2280  C   PHE A 295      27.543  19.352  24.675  1.00 28.01           C
ATOM   2281  O   PHE A 295      27.720  20.239  23.811  1.00 28.48           O
ATOM   2282  CB  PHE A 295      26.756  17.703  23.009  1.00 27.33           C
ATOM   2283  CG  PHE A 295      25.955  16.487  22.658  1.00 27.87           C
ATOM   2284  CD1 PHE A 295      24.586  16.560  22.496  1.00 27.75           C
ATOM   2285  CD2 PHE A 295      26.581  15.287  22.426  1.00 26.57           C
ATOM   2286  CE1 PHE A 295      23.892  15.466  22.147  1.00 28.45           C
ATOM   2287  CE2 PHE A 295      25.869  14.187  22.095  1.00 27.40           C
ATOM   2288  CZ  PHE A 295      24.541  14.262  21.952  1.00 27.57           C
ATOM   2289  N   TRP A 296      28.166  19.346  25.852  1.00 28.46           N
ATOM   2290  CA  TRP A 296      29.097  20.402  26.249  1.00 29.05           C
ATOM   2291  C   TRP A 296      30.545  19.950  26.077  1.00 29.39           C
ATOM   2292  O   TRP A 296      30.981  18.942  26.663  1.00 29.90           O
ATOM   2293  CB  TRP A 296      28.850  20.825  27.696  1.00 29.23           C
ATOM   2294  CG  TRP A 296      27.917  21.982  27.908  1.00 31.21           C
ATOM   2295  CD1 TRP A 296      27.805  23.080  27.135  1.00 33.45           C
ATOM   2296  CD2 TRP A 296      26.995  22.171  28.996  1.00 33.70           C
ATOM   2297  NE1 TRP A 296      26.864  23.941  27.651  1.00 33.91           N
ATOM   2298  CE2 TRP A 296      26.344  23.403  28.787  1.00 33.49           C
ATOM   2299  CE3 TRP A 296      26.638  21.414  30.113  1.00 36.30           C
ATOM   2300  CZ2 TRP A 296      25.377  23.902  29.642  1.00 35.59           C
ATOM   2301  CZ3 TRP A 296      25.643  21.899  30.967  1.00 37.80           C
ATOM   2302  CH2 TRP A 296      25.034  23.141  30.727  1.00 37.39           C
ATOM   2303  N   TYR A 297      31.288  20.720  25.292  1.00 29.87           N
ATOM   2304  CA  TYR A 297      32.693  20.472  25.017  1.00 30.43           C
ATOM   2305  C   TYR A 297      33.548  21.629  25.518  1.00 30.98           C
ATOM   2306  O   TYR A 297      33.167  22.765  25.387  1.00 29.50           O
ATOM   2307  CB  TYR A 297      32.909  20.334  23.502  1.00 30.36           C
ATOM   2308  CG  TYR A 297      32.304  19.083  22.919  1.00 30.07           C
ATOM   2309  CD1 TYR A 297      30.946  19.012  22.627  1.00 29.74           C
ATOM   2310  CD2 TYR A 297      33.083  17.960  22.687  1.00 28.56           C
ATOM   2311  CE1 TYR A 297      30.397  17.859  22.105  1.00 28.46           C
ATOM   2312  CE2 TYR A 297      32.546  16.800  22.213  1.00 27.77           C
ATOM   2313  CZ  TYR A 297      31.202  16.758  21.913  1.00 28.10           C
ATOM   2314  OH  TYR A 297      30.654  15.613  21.438  1.00 27.72           O
ATOM   2315  N   LYS A 298      34.723  21.325  26.060  1.00 32.77           N
ATOM   2316  CA  LYS A 298      35.671  22.349  26.470  1.00 34.43           C
ATOM   2317  C   LYS A 298      36.126  23.014  25.216  1.00 34.91           C
ATOM   2318  O   LYS A 298      36.236  22.373  24.194  1.00 35.28           O
ATOM   2319  CB  LYS A 298      36.865  21.749  27.221  1.00 35.25           C
ATOM   2320  CG  LYS A 298      36.595  21.446  28.725  1.00 38.48           C
ATOM   2321  CD  LYS A 298      37.834  20.990  29.532  1.00 42.40           C
ATOM   2322  CE  LYS A 298      37.429  20.600  30.991  1.00 45.34           C
ATOM   2323  NZ  LYS A 298      38.515  19.883  31.770  1.00 49.07           N
ATOM   2324  N   GLY A 299      36.384  24.305  25.267  1.00 36.67           N
ATOM   2325  CA  GLY A 299      36.837  24.998  24.080  1.00 38.01           C
ATOM   2326  C   GLY A 299      38.249  24.618  23.689  1.00 39.33           C
ATOM   2327  O   GLY A 299      38.965  23.987  24.437  1.00 39.19           O
ATOM   2328  N   ALA A 300      38.644  25.017  22.498  1.00 41.68           N
ATOM   2329  CA  ALA A 300      40.014  24.844  22.048  1.00 43.93           C
ATOM   2330  C   ALA A 300      40.964  25.618  22.940  1.00 45.88           C
ATOM   2331  O   ALA A 300      40.558  26.437  23.741  1.00 46.12           O
ATOM   2332  CB  ALA A 300      40.148  25.343  20.639  1.00 43.86           C
ATOM   2333  N   PRO A 301      42.254  25.393  22.773  1.00 49.19           N
ATOM   2334  CA  PRO A 301      43.251  26.084  23.605  1.00 50.79           C
ATOM   2335  C   PRO A 301      43.465  27.525  23.204  1.00 52.01           C
ATOM   2336  O   PRO A 301      43.302  27.869  22.041  1.00 52.73           O
ATOM   2337  CB  PRO A 301      44.534  25.325  23.303  1.00 50.51           C
ATOM   2338  CG  PRO A 301      44.357  24.908  21.884  1.00 50.75           C
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ATOM   2339  CD  PRO A 301      42.890  24.521  21.766  1.00 49.57           C
ATOM   2340  N   THR A 302      43.831  28.346  24.169  1.00 53.76           N
ATOM   2341  CA  THR A 302      44.173  29.736  23.928  1.00 55.20           C
ATOM   2342  C   THR A 302      45.563  29.720  23.307  1.00 56.14           C
ATOM   2343  O   THR A 302      46.504  29.273  23.980  1.00 56.50           O
ATOM   2344  CB  THR A 302      44.249  30.449  25.274  1.00 55.30           C
ATOM   2345  OG1 THR A 302      42.959  30.448  25.909  1.00 57.92           O
ATOM   2346  CG2 THR A 302      44.552  31.886  25.090  1.00 56.33           C
ATOM   2347  N   PRO A 303      45.743  30.239  22.086  1.00 56.60           N
ATOM   2348  CA  PRO A 303      47.057  30.145  21.427  1.00 56.45           C
ATOM   2349  C   PRO A 303      48.168  30.743  22.280  1.00 56.31           C
ATOM   2350  O   PRO A 303      47.845  31.449  23.235  1.00 56.29           O
ATOM   2351  CB  PRO A 303      46.883  30.989  20.168  1.00 56.55           C
ATOM   2352  CG  PRO A 303      45.418  31.007  19.927  1.00 56.34           C
ATOM   2353  CD  PRO A 303      44.812  31.082  21.309  1.00 56.48           C
ATOM   2354  N   GLU A 307      46.896  37.001  18.664  1.00 61.01           N
ATOM   2355  CA  GLU A 307      46.873  37.991  17.591  1.00 61.50           C
ATOM   2356  C   GLU A 307      45.852  39.079  17.834  1.00 60.73           C
ATOM   2357  O   GLU A 307      44.755  38.828  18.308  1.00 61.45           O
ATOM   2358  CB  GLU A 307      46.614  37.356  16.205  1.00 62.21           C
ATOM   2359  CG  GLU A 307      46.871  38.339  15.045  1.00 63.86           C
ATOM   2360  CD  GLU A 307      46.898  37.697  13.665  1:00 65.26           C
ATOM   2361  OE1 GLU A 307      46.468  36.535  13.516  1.00 65.73           O
ATOM   2362  OE2 GLU A 307      47.342  38.382  12.718  1.00 67.94           O
ATOM   2363  N   TYR A 308      46.237  40.302  17.513  1.00 59.88           N
ATOM   2364  CA  TYR A 308      45.349  41.441  17.639  1.00 59.19           C
ATOM   2365  C   TYR A 308      44.706  41.622  16.279  1.00 58.70           C
ATOM   2366  O   TYR A 308      45.224  41.120  15.273  1.00 59.29           O
ATOM   2367  CB  TYR A 308      46.133  42.665  18.095  1.00 59.18           C
ATOM   2368  CG  TYR A 308      46.677  42.418  19.478  1.00 59.73           C
ATOM   2369  CD1 TYR A 308      45.904  42.708  20.605  1.00 59.74           C
ATOM   2370  CD2 TYR A 308      47.912  41.801  19.665  1.00 59.94           C
ATOM   2371  CE1 TYR A 308      46.357  42.438  21.869  1.00 59.94           C
ATOM   2372  CE2 TYR A 308      48.377  41.519  20.933  1.00 61.17           C
ATOM   2373  CZ  TYR A 308      47.592  41.843  22.038  1.00 61.68           C
ATOM   2374  OH  TYR A 308      48.032  41.579  23.316  1.00 63.29           O
ATOM   2375  N   PRO A 309      43.541  42.258  16.233  1.00 57.37           N
ATOM   2376  CA  PRO A 309      42.849  42.815  17.411  1.00 55.72           C
ATOM   2377  C   PRO A 309      42.113  41.742  18.225  1.00 52.85           C
ATOM   2378  O   PRO A 309      41.627  40.815  17.613  1.00 53.22           O
ATOM   2379  CB  PRO A 309      41.823  43.755  16.777  1.00 56.31           C
ATOM   2380  CG  PRO A 309      41.512  43.113  15.410  1.00 57.04           C
ATOM   2381  CD  PRO A 309      42.774  42.431  14.984  1.00 57.43           C
ATOM   2382  N   LEU A 310      41.998  41.879  19.544  1.00 49.67           N
ATOM   2383  CA  LEU A 310      41.368  40.825  20.363  1.00 47.23           C
ATOM   2384  C   LEU A 310      39.870  40.656  20.128  1.00 45.07           C
ATOM   2385  O   LEU A 310      39.131  41.635  19.956  1.00 45.94           O
ATOM   2386  CB  LEU A 310      41.568  41.109  21.837  1.00 46.99           C
ATOM   2387  CG  LEU A 310      42.579  40.351  22.706  1.00 46.52           C
ATOM   2388  CD1 LEU A 310      43.856  40.028  22.048  1.00 45.64           C
ATOM   2389  CD2 LEU A 310      42.840  41.179  23.975  1.00 46.57           C
ATOM   2390  N   LYS A 311      39.408  39.414  20.139  1.00 41.52           N
ATOM   2391  CA  LYS A 311      37.987  39.155  20.003  1.00 38.55           C
ATOM   2392  C   LYS A 311      37.179  39.463  21.276  1.00 35.80           C
ATOM   2393  O   LYS A 311      37.664  39.425  22.400  1.00 34.43           O
ATOM   2394  CB  LYS A 311      37.760  37.727  19.553  1.00 39.46           C
ATOM   2395  N   ALA A 312      35.920  39.786  21.076  1.00 32.82           N
ATOM   2396  CA  ALA A 312      35.055  40.081  22.185  1.00 30.91           C
ATOM   2397  C   ALA A 312      35.152  39.033  23.279  1.00 30.00           C
ATOM   2398  O   ALA A 312      35.231  39.382  24.442  1.00 28.68           O
ATOM   2399  CB  ALA A 312      33.625  40.234  21.707  1.00 30.07           C
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ATOM	2400	N	HIS	A	313	35.148	37.753	22.916	1.00 29.85	N
ATOM	2401	CA	HIS	A	313	35.125	36.727	23.931	1.00 30.47	C
ATOM	2402	C	HIS	A	313	36.410	36.710	24.689	1.00 29.99	C
ATOM	2403	O	HIS	A	313	36.439	36.320	25.846	1.00 29.25	O
ATOM	2404	CB	HIS	A	313	34.787	35.331	23.392	1.00 31.64	C
ATOM	2405	CG	HIS	A	313	35.860	34.714	22.566	1.00 35.54	C
ATOM	2406	ND1	HIS	A	313	35.987	34.950	21.208	1.00 41.10	N
ATOM	2407	CD2	HIS	A	313	36.844	33.846	22.891	1.00 40.77	C
ATOM	2408	CE1	HIS	A	313	37.047	34.303	20.750	1.00 40.02	C
ATOM	2409	NE2	HIS	A	313	37.567	33.603	21.743	1.00 41.82	N
ATOM	2410	N	GLN	A	314	37.482	37.137	24.056	1.00 29.68	N
ATOM	2411	CA	GLN	A	314	38.754	37.185	24.751	1.00 29.77	C
ATOM	2412	C	GLN	A	314	38.729	38.294	25.817	1.00 30.57	C
ATOM	2413	O	GLN	A	314	39.222	38.120	26.956	1.00 29.69	O
ATOM	2414	CB	GLN	A	314	39.893	37.401	23.743	1.00 30.02	C
ATOM	2415	CG	GLN	A	314	40.111	36.182	22.786	1.00 29.84	C
ATOM	2416	CD	GLN	A	314	41.126	36.437	21.687	1.00 31.76	C
ATOM	2417	OE1	GLN	A	314	40.982	37.377	20.885	1.00 32.81	O
ATOM	2418	NE2	GLN	A	314	42.160	35.594	21.637	1.00 34.23	N
ATOM	2419	N	LYS	A	315	38.111	39.421	25.471	1.00 30.44	N
ATOM	2420	CA	LYS	A	315	38.026	40.491	26.431	1.00 31.27	C
ATOM	2421	C	LYS	A	315	37.192	40.023	27.635	1.00 30.75	C
ATOM	2422	O	LYS	A	315	37.511	40.373	28.784	1.00 29.60	O
ATOM	2423	CB	LYS	A	315	37.461	41.752	25.808	1.00 31.76	C
ATOM	2424	CG	LYS	A	315	38.483	42.491	24.982	1.00 33.90	C
ATOM	2425	CD	LYS	A	315	37.902	43.711	24.329	1.00 37.97	C
ATOM	2426	CE	LYS	A	315	38.911	44.380	23.419	1.00 41.69	C
ATOM	2427	NZ	LYS	A	315	38.264	45.411	22.536	1.00 44.93	N
ATOM	2428	N	VAL	A	316	36.163	39.216	27.362	1.00 29.26	N
ATOM	2429	CA	VAL	A	316	35.318	38.731	28.422	1.00 29.23	C
ATOM	2430	C	VAL	A	316	36.152	37.841	29.339	1.00 29.87	C
ATOM	2431	O	VAL	A	316	36.075	37.926	30.584	1.00 30.33	O
ATOM	2432	CB	VAL	A	316	34.079	37.973	27.900	1.00 28.68	C
ATOM	2433	CG1	VAL	A	316	33.306	37.376	29.037	1.00 28.32	C
ATOM	2434	CG2	VAL	A	316	33.144	38.887	27.136	1.00 28.57	C
ATOM	2435	N	ALA	A	317	36.976	37.007	28.728	1.00 29.36	N
ATOM	2436	CA	ALA	A	317	37.878	36.136	29.487	1.00 29.26	C
ATOM	2437	C	ALA	A	317	38.776	36.941	30.389	1.00 28.08	C
ATOM	2438	O	ALA	A	317	39.052	36.564	31.519	1.00 27.65	O
ATOM	2439	CB	ALA	A	317	38.733	35.267	28.561	1.00 28.70	C
ATOM	2440	N	ILE	A	318	39.211	38.068	29.873	1.00 28.33	N
ATOM	2441	CA	ILE	A	318	40.083	38.945	30.628	1.00 28.40	C
ATOM	2442	C	ILE	A	318	39.338	39.526	31.825	1.00 28.94	C
ATOM	2443	O	ILE	A	318	39.880	39.503	32.924	1.00 29.70	O
ATOM	2444	CB	ILE	A	318	40.697	40.053	29.732	1.00 27.74	C
ATOM	2445	CG1	ILE	A	318	41.683	39.443	28.743	1.00 28.14	C
ATOM	2446	CG2	ILE	A	318	41.433	41.082	30.577	1.00 27.98	C
ATOM	2447	CD1	ILE	A	318	42.271	40.447	27.759	1.00 29.17	C
ATOM	2448	N	MET	A	319	38.115	40.032	31.630	1.00 28.75	N
ATOM	2449	CA	MET	A	319	37.402	40.666	32.735	1.00 28.64	C
ATOM	2450	C	MET	A	319	37.140	39.669	33.877	1.00 29.22	C
ATOM	2451	O	MET	A	319	37.308	39.981	35.082	1.00 30.32	O
ATOM	2452	CB	MET	A	319	36.123	41.355	32.273	1.00 28.33	C
ATOM	2453	CG	MET	A	319	36.327	42.553	31.334	1.00 27.88	C
ATOM	2454	SD	MET	A	319	34.779	43.349	30.857	1.00 29.90	S
ATOM	2455	CE	MET	A	319	34.146	42.288	29.455	1.00 28.71	C
ATOM	2456	N	ARG	A	320	36.802	38.446	33.515	1.00 29.22	N
ATOM	2457	CA	ARG	A	320	36.543	37.429	34.520	1.00 28.75	C
ATOM	2458	C	ARG	A	320	37.806	37.221	35.325	1.00 28.81	C
ATOM	2459	O	ARG	A	320	37.782	37.132	36.569	1.00 28.76	O
ATOM	2460	CB	ARG	A	320	36.142	36.118	33.861	1.00 28.67	C

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ATOM   2461  CG  ARG A 320      34.810  36.125  33.120  1.00 29.62           C
ATOM   2462  CD  ARG A 320      34.371  34.747  32.603  1.00 27.74           C
ATOM   2463  NE  ARG A 320      34.193  33.843  33.716  1.00 24.81           N
ATOM   2464  CZ  ARG A 320      33.161  33.887  34.526  1.00 27.65           C
ATOM   2465  NH1 ARG A 320      32.180  34.752  34.330  1.00 29.97           N
ATOM   2466  NH2 ARG A 320      33.088  33.064  35.542  1.00 27.59           N
ATOM   2467  N   ASN A 321      38.933  37.167  34.627  1.00 28.60           N
ATOM   2468  CA  ASN A 321      40.185  36.884  35.320  1.00 28.16           C
ATOM   2469  C   ASN A 321      40.526  38.003  36.291  1.00 28.13           C
ATOM   2470  O   ASN A 321      40.945  37.742  37.423  1.00 29.13           O
ATOM   2471  CB  ASN A 321      41.318  36.615  34.319  1.00 28.09           C
ATOM   2472  CG  ASN A 321      41.317  35.177  33.817  1.00 27.94           C
ATOM   2473  OD1 ASN A 321      40.924  34.286  34.555  1.00 28.53           O
ATOM   2474  ND2 ASN A 321      41.751  34.946  32.560  1.00 23.58           N
ATOM   2475  N   ILE A 322      40.337  39.250  35.876  1.00 27.49           N
ATOM   2476  CA  ILE A 322      40.659  40.350  36.749  1.00 27.70           C
ATOM   2477  C   ILE A 322      39.792  40.209  38.017  1.00 27.39           C
ATOM   2478  O   ILE A 322      40.284  40.315  39.101  1.00 26.48           O
ATOM   2479  CB  ILE A 322      40.353  41.680  36.059  1.00 28.04           C
ATOM   2480  CG1 ILE A 322      41.302  41.941  34.897  1.00 30.79           C
ATOM   2481  CG2 ILE A 322      40.426  42.832  37.038  1.00 28.09           C
ATOM   2482  CD1 ILE A 322      42.756  41.766  35.226  1.00 32.31           C
ATOM   2483  N   GLU A 323      38.494  39.961  37.854  1.00 27.37           N
ATOM   2484  CA  GLU A 323      37.618  39.868  38.985  1.00 27.48           C
ATOM   2485  C   GLU A 323      38.060  38.784  39.881  1.00 27.52           C
ATOM   2486  O   GLU A 323      38.096  38.956  41.079  1.00 26.90           O
ATOM   2487  CB  GLU A 323      36.183  39.637  38.558  1.00 27.48           C
ATOM   2488  CG  GLU A 323      35.592  40.849  37.910  1.00 27.65           C
ATOM   2489  CD  GLU A 323      34.199  40.631  37.318  1.00 25.69           C
ATOM   2490  OE1 GLU A 323      33.236  40.358  38.050  1.00 24.42           O
ATOM   2491  OE2 GLU A 323      34.072  40.808  36.101  1.00 24.98           O
ATOM   2492  N   LYS A 324      38.419  37.659  39.297  1.00 29.13           N
ATOM   2493  CA  LYS A 324      38.845  36.508  40.097  1.00 30.35           C
ATOM   2494  C   LYS A 324      40.099  36.825  40.912  1.00 31.16           C
ATOM   2495  O   LYS A 324      40.123  36.547  42.111  1.00 32.01           O
ATOM   2496  CB  LYS A 324      39.116  35.289  39.222  1.00 30.16           C
ATOM   2497  CG  LYS A 324      37.887  34.625  38.648  1.00 30.63           C
ATOM   2498  CD  LYS A 324      38.344  33.454  37.765  1.00 30.70           C
ATOM   2499  CE  LYS A 324      37.204  32.713  37.038  1.00 30.66           C
ATOM   2500  NZ  LYS A 324      37.728  31.451  36.325  1.00 27.19           N
ATOM   2501  N   MET A 325      41.119  37.401  40.270  1.00 31.84           N
ATOM   2502  CA  MET A 325      42.392  37.735  40.939  1.00 32.71           C
ATOM   2503  C   MET A 325      42.216  38.743  42.078  1.00 32.44           C
ATOM   2504  O   MET A 325      42.840  38.637  43.141  1.00 30.36           O
ATOM   2505  CB  MET A 325      43.417  38.276  39.923  1.00 32.98           C
ATOM   2506  CG  MET A 325      43.978  37.216  39.032  1.00 36.70           C
ATOM   2507  SD  MET A 325      44.734  37.879  37.532  1.00 46.02           S
ATOM   2508  CE  MET A 325      45.616  39.197  38.250  1.00 46.11           C
ATOM   2509  N   LEU A 326      41.376  39.738  41.837  1.00 33.01           N
ATOM   2510  CA  LEU A 326      41.116  40.756  42.852  1.00 34.17           C
ATOM   2511  C   LEU A 326      40.490  40.151  44.083  1.00 33.83           C
ATOM   2512  O   LEU A 326      40.871  40.464  45.188  1.00 33.22           O
ATOM   2513  CB  LEU A 326      40.185  41.818  42.305  1.00 34.61           C
ATOM   2514  CG  LEU A 326      40.740  43.194  41.974  1.00 37.32           C
ATOM   2515  CD1 LEU A 326      42.251  43.297  41.924  1.00 39.32           C
ATOM   2516  CD2 LEU A 326      40.158  43.607  40.643  1.00 39.20           C
ATOM   2517  N   GLY A 327      39.534  39.262  43.861  1.00 34.50           N
ATOM   2518  CA  GLY A 327      38.842  38.569  44.930  1.00 34.87           C
ATOM   2519  C   GLY A 327      39.796  37.776  45.779  1.00 35.34           C
ATOM   2520  O   GLY A 327      39.728  37.810  47.016  1.00 35.51           O
ATOM   2521  N   GLU A 328      40.725  37.081  45.139  1.00 35.88           N
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ATOM	2522	CA	GLU	A	328	41.708	36.346	45.926	1.00 36.96	C
ATOM	2523	C	GLU	A	328	42.668	37.302	46.614	1.00 35.46	C
ATOM	2524	O	GLU	A	328	42.958	37.144	47.799	1.00 35.65	O
ATOM	2525	CB	GLU	A	328	42.465	35.340	45.074	1.00 37.89	C
ATOM	2526	CG	GLU	A	328	41.555	34.272	44.481	1.00 43.40	C
ATOM	2527	CD	GLU	A	328	41.694	32.905	45.135	1.00 50.39	C
ATOM	2528	OE1	GLU	A	328	42.006	32.861	46.361	1.00 53.07	O
ATOM	2529	OE2	GLU	A	328	41.503	31.876	44.396	1.00 53.24	O
ATOM	2530	N	ALA	A	329	43.110	38.331	45.906	1.00 34.23	N
ATOM	2531	CA	ALA	A	329	44.130	39.208	46.469	1.00 33.82	C
ATOM	2532	C	ALA	A	329	43.652	40.031	47.632	1.00 33.70	C
ATOM	2533	O	ALA	A	329	44.384	40.279	48.547	1.00 33.79	O
ATOM	2534	CB	ALA	A	329	44.711	40.079	45.428	1.00 33.36	C
ATOM	2535	N	LEU	A	330	42.410	40.451	47.602	1.00 34.57	N
ATOM	2536	CA	LEU	A	330	41.869	41.243	48.694	1.00 35.04	C
ATOM	2537	C	LEU	A	330	41.351	40.397	49.837	1.00 35.29	C
ATOM	2538	O	LEU	A	330	41.011	40.922	50.884	1.00 35.39	O
ATOM	2539	CB	LEU	A	330	40.721	42.096	48.182	1.00 34.85	C
ATOM	2540	CG	LEU	A	330	41.141	43.081	47.095	1.00 35.83	C
ATOM	2541	CD1	LEU	A	330	39.907	43.564	46.304	1.00 37.05	C
ATOM	2542	CD2	LEU	A	330	41.842	44.244	47.662	1.00 34.12	C
ATOM	2543	N	GLY	A	331	41.223	39.098	49.619	1.00 36.20	N
ATOM	2544	CA	GLY	A	331	40.751	38.207	50.659	1.00 36.87	C
ATOM	2545	C	GLY	A	331	39.260	38.250	50.957	1.00 37.48	C
ATOM	2546	O	GLY	A	331	38.807	37.527	51.846	1.00 38.53	O
ATOM	2547	N	ASN	A	332	38.509	39.085	50.242	1.00 37.67	N
ATOM	2548	CA	ASN	A	332	37.069	39.175	50.399	1.00 38.06	C
ATOM	2549	C	ASN	A	332	36.446	39.652	49.088	1.00 37.75	C
ATOM	2550	O	ASN	A	332	36.688	40.760	48.661	1.00 37.42	O
ATOM	2551	CB	ASN	A	332	36.728	40.152	51.523	1.00 38.50	C
ATOM	2552	CG	ASN	A	332	35.272	40.103	51.896	1.00 40.34	C
ATOM	2553	OD1	ASN	A	332	34.493	39.377	51.274	1.00 43.85	O
ATOM	2554	ND2	ASN	A	332	34.894	40.841	52.937	1.00 41.75	N
ATOM	2555	N	PRO	A	333	35.628	38.839	48.451	1.00 37.92	N
ATOM	2556	CA	PRO	A	333	35.076	39.209	47.146	1.00 37.97	C
ATOM	2557	C	PRO	A	333	34.245	40.456	47.211	1.00 37.96	C
ATOM	2558	O	PRO	A	333	34.086	41.143	46.204	1.00 37.81	O
ATOM	2559	CB	PRO	A	333	34.182	38.024	46.770	1.00 37.85	C
ATOM	2560	CG	PRO	A	333	34.327	37.037	47.801	1.00 38.26	C
ATOM	2561	CD	PRO	A	333	35.161	37.530	48.908	1.00 37.98	C
ATOM	2562	N	GLN	A	334	33.702	40.741	48.381	1.00 38.23	N
ATOM	2563	CA	GLN	A	334	32.872	41.928	48.539	1.00 38.84	C
ATOM	2564	C	GLN	A	334	33.713	43.177	48.442	1.00 37.04	C
ATOM	2565	O	GLN	A	334	33.185	44.254	48.276	1.00 37.42	O
ATOM	2566	CB	GLN	A	334	32.041	41.870	49.850	1.00 39.97	C
ATOM	2567	CG	GLN	A	334	30.696	41.057	49.612	1.00 44.72	C
ATOM	2568	CD	GLN	A	334	29.669	41.117	50.756	1.00 49.62	C
ATOM	2569	OE1	GLN	A	334	29.666	42.067	51.566	1.00 53.65	O
ATOM	2570	NE2	GLN	A	334	28.781	40.106	50.808	1.00 50.33	N
ATOM	2571	N	GLU	A	335	35.026	43.036	48.489	1.00 35.15	N
ATOM	2572	CA	GLU	A	335	35.872	44.193	48.385	1.00 34.55	C
ATOM	2573	C	GLU	A	335	36.197	44.510	46.927	1.00 33.05	C
ATOM	2574	O	GLU	A	335	36.760	45.564	46.640	1.00 32.79	O
ATOM	2575	CB	GLU	A	335	37.144	44.028	49.247	1.00 35.19	C
ATOM	2576	CG	GLU	A	335	36.927	44.326	50.727	1.00 37.92	C
ATOM	2577	CD	GLU	A	335	38.195	44.232	51.550	1.00 43.46	C
ATOM	2578	OE1	GLU	A	335	39.179	44.916	51.179	1.00 46.92	O
ATOM	2579	OE2	GLU	A	335	38.211	43.499	52.589	1.00 49.17	O
ATOM	2580	N	VAL	A	336	35.792	43.633	46.005	1.00 31.25	N
ATOM	2581	CA	VAL	A	336	36.081	43.810	44.579	1.00 29.91	C
ATOM	2582	C	VAL	A	336	35.505	45.076	43.957	1.00 29.08	C

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ATOM   2583  O   VAL A 336      36.177  45.816  43.246  1.00 29.08           O
ATOM   2584  CB  VAL A 336      35.648  42.584  43.791  1.00 30.21           C
ATOM   2585  CG1 VAL A 336      35.743  42.805  42.325  1.00 29.11           C
ATOM   2586  CG2 VAL A 336      36.540  41.391  44.161  1.00 29.98           C
ATOM   2587  N   GLY A 337      34.263  45.354  44.240  1.00 28.54           N
ATOM   2588  CA  GLY A 337      33.644  46.546  43.722  1.00 27.74           C
ATOM   2589  C   GLY A 337      34.285  47.848  44.130  1.00 27.24           C
ATOM   2590  O   GLY A 337      34.599  48.687  43.281  1.00 26.81           O
ATOM   2591  N   PRO A 338      34.365  48.094  45.428  1.00 27.19           N
ATOM   2592  CA  PRO A 338      34.994  49.334  45.905  1.00 26.74           C
ATOM   2593  C   PRO A 338      36.378  49.553  45.328  1.00 26.42           C
ATOM   2594  O   PRO A 338      36.678  50.668  44.932  1.00 27.57           O
ATOM   2595  CB  PRO A 338      35.008  49.173  47.426  1.00 25.92           C
ATOM   2596  CG  PRO A 338      33.800  48.384  47.682  1.00 27.15           C
ATOM   2597  CD  PRO A 338      33.750  47.326  46.531  1.00 27.09           C
ATOM   2598  N   LEU A 339      37.199  48.533  45.225  1.00 25.95           N
ATOM   2599  CA  LEU A 339      38.505  48.762  44.652  1.00 26.15           C
ATOM   2600  C   LEU A 339      38.384  49.205  43.192  1.00 25.74           C
ATOM   2601  O   LEU A 339      39.021  50.203  42.784  1.00 23.97           O
ATOM   2602  CB  LEU A 339      39.375  47.521  44.763  1.00 27.19           C
ATOM   2603  CG  LEU A 339      40.835  47.787  44.367  1.00 28.71           C
ATOM   2604  CD1 LEU A 339      41.805  47.124  45.241  1.00 31.14           C
ATOM   2605  CD2 LEU A 339      41.028  47.264  42.987  1.00 30.12           C
ATOM   2606  N   LEU A 340      37.555  48.491  42.416  1.00 25.64           N
ATOM   2607  CA  LEU A 340      37.364  48.841  40.991  1.00 25.90           C
ATOM   2608  C   LEU A 340      36.860  50.261  40.871  1.00 26.04           C
ATOM   2609  O   LEU A 340      37.324  51.044  40.034  1.00 25.93           O
ATOM   2610  CB  LEU A 340      36.399  47.900  40.293  1.00 25.64           C
ATOM   2611  CG  LEU A 340      36.996  46.521  40.072  1.00 27.50           C
ATOM   2612  CD1 LEU A 340      35.943  45.559  39.555  1.00 26.88           C
ATOM   2613  CD2 LEU A 340      38.221  46.587  39.138  1.00 26.63           C
ATOM   2614  N   ASN A 341      35.914  50.610  41.720  1.00 26.45           N
ATOM   2615  CA  ASN A 341      35.377  51.963  41.669  1.00 27.35           C
ATOM   2616  C   ASN A 341      36.450  52.983  41.983  1.00 27.08           C
ATOM   2617  O   ASN A 341      36.578  54.012  41.324  1.00 26.82           O
ATOM   2618  CB  ASN A 341      34.183  52.117  42.619  1.00 27.50           C
ATOM   2619  CG  ASN A 341      32.901  51.709  41.975  1.00 28.85           C
ATOM   2620  OD1 ASN A 341      32.509  52.283  40.957  1.00 37.23           O
ATOM   2621  ND2 ASN A 341      32.263  50.697  42.504  1.00 29.29           N
ATOM   2622  N   THR A 342      37.234  52.665  42.994  1.00 26.89           N
ATOM   2623  CA  THR A 342      38.321  53.509  43.355  1.00 27.22           C
ATOM   2624  C   THR A 342      39.301  53.629  42.191  1.00 27.16           C
ATOM   2625  O   THR A 342      39.861  54.686  42.003  1.00 26.86           O
ATOM   2626  CB  THR A 342      38.995  52.934  44.568  1.00 27.76           C
ATOM   2627  OG1 THR A 342      38.212  53.248  45.734  1.00 29.14           O
ATOM   2628  CG2 THR A 342      40.367  53.604  44.784  1.00 28.62           C
ATOM   2629  N   MET A 343      39.502  52.560  41.419  1.00 26.80           N
ATOM   2630  CA  MET A 343      40.401  52.623  40.282  1.00 27.48           C
ATOM   2631  C   MET A 343      39.927  53.552  39.174  1.00 27.78           C
ATOM   2632  O   MET A 343      40.762  54.229  38.554  1.00 26.44           O
ATOM   2633  CB  MET A 343      40.602  51.253  39.634  1.00 28.13           C
ATOM   2634  CG  MET A 343      41.758  50.440  40.125  1.00 30.19           C
ATOM   2635  SD  MET A 343      42.279  49.088  38.964  1.00 32.27           S
ATOM   2636  CE  MET A 343      41.049  48.127  39.221  1.00 34.83           C
ATOM   2637  N   ILE A 344      38.619  53.568  38.864  1.00 28.41           N
ATOM   2638  CA  ILE A 344      38.193  54.350  37.700  1.00 29.03           C
ATOM   2639  C   ILE A 344      37.712  55.748  38.057  1.00 28.17           C
ATOM   2640  O   ILE A 344      37.879  56.587  37.064  1.00 27.26           O
ATOM   2641  CB  ILE A 344      37.146  53.650  36.818  1.00 29.47           C
ATOM   2642  CG1 ILE A 344      35.766  53.866  37.384  1.00 32.69           C
ATOM   2643  CG2 ILE A 344      37.457  52.176  36.667  1.00 32.43           C
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ATOM   2644  CD1 ILE A 344      34.724  53.358  36.590  1.00 35.46           C
ATOM   2645  N   LYS A 345      37.107  56.032  39.108  1.00 27.79           N
ATOM   2646  CA  LYS A 345      36.518  57.364  39.218  1.00 28.48           C
ATOM   2647  C   LYS A 345      37.489  58.485  39.219  1.00 27.72           C
ATOM   2648  O   LYS A 345      38.428  58.555  40.000  1.00 27.37           O
ATOM   2649  CB  LYS A 345      35.542  57.611  40.343  1.00 29.78           C
ATOM   2650  CG  LYS A 345      35.537  56.758  41.491  1.00 34.49           C
ATOM   2651  CD  LYS A 345      34.075  56.352  41.692  1.00 37.43           C
ATOM   2652  CE  LYS A 345      33.508  57.036  42.904  1.00 40.47           C
ATOM   2653  NZ  LYS A 345      34.223  56.522  44.138  1.00 46.19           N
ATOM   2654  N   GLY A 346      37.218  59.386  38.297  1.00 26.82           N
ATOM   2655  CA  GLY A 346      38.044  60.538  38.108  1.00 25.95           C
ATOM   2656  C   GLY A 346      39.314  60.175  37.392  1.00 25.08           C
ATOM   2657  O   GLY A 346      40.172  61.022  37.244  1.00 24.91           O
ATOM   2658  N   ARG A 347      39.419  58.935  36.944  1.00 24.84           N
ATOM   2659  CA  ARG A 347      40.647  58.436  36.347  1.00 25.30           C
ATOM   2660  C   ARG A 347      40.431  57.848  34.937  1.00 26.05           C
ATOM   2661  O   ARG A 347      41.138  58.196  34.007  1.00 24.59           O
ATOM   2662  CB  ARG A 347      41.279  57.395  37.272  1.00 25.27           C
ATOM   2663  CG  ARG A 347      41.716  57.934  38.696  1.00 24.21           C
ATOM   2664  CD  ARG A 347      43.159  57.506  39.082  1.00 25.10           C
ATOM   2665  NE  ARG A 347      43.175  56.084  39.017  1.00 24.49           N
ATOM   2666  CZ  ARG A 347      44.102  55.293  38.566  1.00 19.51           C
ATOM   2667  NH1 ARG A 347      45.299  55.692  38.195  1.00 21.86           N
ATOM   2668  NH2 ARG A 347      43.802  54.011  38.579  1.00 18.94           N
ATOM   2669  N   TYR A 348      39.438  56.991  34.794  1.00 27.91           N
ATOM   2670  CA  TYR A 348      39.119  56.380  33.507  1.00 29.80           C
ATOM   2671  C   TYR A 348      37.671  56.590  33.065  1.00 32.00           C
ATOM   2672  O   TYR A 348      37.309  56.173  31.964  1.00 32.29           O
ATOM   2673  CB  TYR A 348      39.379  54.877  33.543  1.00 28.38           C
ATOM   2674  CG  TYR A 348      40.836  54.498  33.597  1.00 27.86           C
ATOM   2675  CD1 TYR A 348      41.617  54.473  32.446  1.00 26.79           C
ATOM   2676  CD2 TYR A 348      41.422  54.124  34.787  1.00 25.32           C
ATOM   2677  CE1 TYR A 348      42.945  54.106  32.496  1.00 25.35           C
ATOM   2678  CE2 TYR A 348      42.734  53.762  34.847  1.00 27.07           C
ATOM   2679  CZ  TYR A 348      43.507  53.759  33.700  1.00 26.40           C
ATOM   2680  OH  TYR A 348      44.827  53.378  33.789  1.00 22.93           O
ATOM   2681  N   ASN A 349      36.824  57.193  33.894  1.00 34.78           N
ATOM   2682  CA  ASN A 349      35.426  57.360  33.473  1.00 37.16           C
ATOM   2683  C   ASN A 349      34.997  58.760  33.104  1.00 38.90           C
ATOM   2684  O   ASN A 349      35.690  59.756  33.136  1.00 38.66           O
ATOM   2685  CB  ASN A 349      34.474  56.837  34.493  1.00 36.69           C
ATOM   2686  CG  ASN A 349      34.480  57.633  35.727  1.00 39.34           C
ATOM   2687  OD1 ASN A 349      35.229  58.632  35.875  1.00 40.92           O
ATOM   2688  ND2 ASN A 349      33.654  57.188  36.684  1.00 42.73           N
ATOM   2689  OXT ASN A 349      33.854  58.954  32.689  1.00 44.16           O
TER    2690      ASN A 349
ATOM   2691  N   LEU S 795      45.870  35.442  31.163  1.00 49.68           N
ATOM   2692  CA  LEU S 795      44.790  36.472  31.262  1.00 49.90           C
ATOM   2693  C   LEU S 795      43.668  36.155  30.294  1.00 50.12           C
ATOM   2694  O   LEU S 795      42.492  36.182  30.666  1.00 49.41           O
ATOM   2695  CB  LEU S 795      45.331  37.873  31.004  1.00 50.09           C
ATOM   2696  CG  LEU S 795      44.774  38.924  31.976  1.00 50.19           C
ATOM   2697  CD1 LEU S 795      44.929  38.464  33.388  1.00 50.50           C
ATOM   2698  CD2 LEU S 795      45.436  40.280  31.876  1.00 51.23           C
ATOM   2699  N   THR S 796      44.041  35.979  29.033  1.00 50.69           N
ATOM   2700  CA  THR S 796      43.178  35.421  27.997  1.00 51.67           C
ATOM   2701  C   THR S 796      42.734  33.983  28.241  1.00 51.11           C
ATOM   2702  O   THR S 796      41.884  33.464  27.535  1.00 51.41           O
ATOM   2703  CB  THR S 796      43.888  35.547  26.626  1.00 51.86           C
ATOM   2704  OG1 THR S 796      43.253  34.704  25.671  1.00 56.26           O
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ATOM   2705  CG2 THR S 796      45.272  34.981  26.662  1.00 52.69           C
ATOM   2706  N   SER S 797      43.261  33.330  29.248  1.00 51.51           N
ATOM   2707  CA  SER S 797      42.838  31.965  29.497  1.00 52.74           C
ATOM   2708  C   SER S 797      41.471  31.865  30.165  1.00 53.39           C
ATOM   2709  O   SER S 797      41.070  32.733  30.934  1.00 52.91           O
ATOM   2710  CB  SER S 797      43.850  31.247  30.351  1.00 52.86           C
ATOM   2711  OG  SER S 797      43.687  31.623  31.697  1.00 55.21           O
ATOM   2712  N   TYR S 798      40.783  30.761  29.904  1.00 54.79           N
ATOM   2713  CA  TYR S 798      39.424  30.584  30.372  1.00 56.02           C
ATOM   2714  C   TYR S 798      39.168  29.271  31.042  1.00 55.81           C
ATOM   2715  O   TYR S 798      39.880  28.305  30.827  1.00 56.61           O
ATOM   2716  CB  TYR S 798      38.437  30.747  29.214  1.00 56.97           C
ATOM   2717  CG  TYR S 798      38.599  29.821  28.015  1.00 60.68           C
ATOM   2718  CD1 TYR S 798      39.595  30.035  27.059  1.00 62.78           C
ATOM   2719  CD2 TYR S 798      37.689  28.783  27.793  1.00 64.68           C
ATOM   2720  CE1 TYR S 798      39.708  29.207  25.943  1.00 65.08           C
ATOM   2721  CE2 TYR S 798      37.798  27.944  26.669  1.00 66.15           C
ATOM   2722  CZ  TYR S 798      38.808  28.155  25.755  1.00 65.29           C
ATOM   2723  OH  TYR S 798      38.902  27.335  24.652  1.00 64.08           O
ATOM   2724  N   ASP S 799      38.117  29.240  31.843  1.00 55.66           N
ATOM   2725  CA  ASP S 799      37.727  28.032  32.546  1.00 55.90           C
ATOM   2726  C   ASP S 799      36.636  27.385  31.739  1.00 54.64           C
ATOM   2727  O   ASP S 799      36.430  27.785  30.604  1.00 55.18           O
ATOM   2728  CB  ASP S 799      37.212  28.367  33.948  1.00 56.52           C
ATOM   2729  CG  ASP S 799      37.366  27.225  34.906  1.00 57.36           C
ATOM   2730  OD1 ASP S 799      36.749  26.147  34.720  1.00 57.64           O
ATOM   2731  OD2 ASP S 799      38.108  27.331  35.881  1.00 62.28           O
ATOM   2732  N   CYS S 800      35.915  26.428  32.326  1.00 53.45           N
ATOM   2733  CA  CYS S 800      34.887  25.693  31.594  1.00 52.63           C
ATOM   2734  C   CYS S 800      33.564  25.644  32.359  1.00 51.79           C
ATOM   2735  O   CYS S 800      32.871  24.632  32.357  1.00 51.30           O
ATOM   2736  CB  CYS S 800      35.372  24.282  31.327  1.00 52.47           C
ATOM   2737  SG  CYS S 800      35.703  23.408  32.872  1.00 52.72           S
ATOM   2738  N   GLU S 801      33.187  26.742  32.996  1.00 50.91           N
ATOM   2739  CA  GLU S 801      31.939  26.732  33.762  1.00 50.65           C
ATOM   2740  C   GLU S 801      30.657  26.939  32.909  1.00 50.18           C
ATOM   2741  O   GLU S 801      30.617  27.687  31.928  1.00 48.39           O
ATOM   2742  CB  GLU S 801      32.008  27.713  34.929  1.00 50.49           C
ATOM   2743  CG  GLU S 801      33.199  27.450  35.853  1.00 51.78           C
ATOM   2744  CD  GLU S 801      33.234  28.359  37.092  1.00 51.24           C
ATOM   2745  OE1 GLU S 801      32.589  28.038  38.102  1.00 49.25           O
ATOM   2746  OE2 GLU S 801      33.919  29.395  37.063  1.00 51.89           O
ATOM   2747  N   VAL S 802      29.624  26.213  33.320  1.00 50.54           N
ATOM   2748  CA  VAL S 802      28.338  26.161  32.650  1.00 50.71           C
ATOM   2749  C   VAL S 802      27.213  26.094  33.694  1.00 51.25           C
ATOM   2750  O   VAL S 802      27.464  25.960  34.885  1.00 50.69           O
ATOM   2751  CB  VAL S 802      28.286  24.902  31.746  1.00 50.61           C
ATOM   2752  CG1 VAL S 802      29.420  24.932  30.727  1.00 49.62           C
ATOM   2753  CG2 VAL S 802      28.376  23.601  32.585  1.00 49.78           C
ATOM   2754  N   ASN S 803      25.967  26.165  33.239  1.00 52.55           N
ATOM   2755  CA  ASN S 803      24.816  26.099  34.140  1.00 53.28           C
ATOM   2756  C   ASN S 803      24.516  24.663  34.561  1.00 54.95           C
ATOM   2757  O   ASN S 803      23.440  24.150  34.298  1.00 54.22           O
ATOM   2758  CB  ASN S 803      23.560  26.724  33.511  1.00 53.04           C
ATOM   2759  CG  ASN S 803      23.546  28.245  33.569  1.00 51.60           C
ATOM   2760  OD1 ASN S 803      24.576  28.895  33.755  1.00 51.13           O
ATOM   2761  ND2 ASN S 803      22.367  28.817  33.406  1.00 46.28           N
ATOM   2762  N   ALA S 804      25.498  24.033  35.201  1.00 57.29           N
ATOM   2763  CA  ALA S 804      25.373  22.697  35.784  1.00 59.38           C
ATOM   2764  C   ALA S 804      26.596  22.490  36.676  1.00 61.01           C
ATOM   2765  O   ALA S 804      27.667  23.026  36.407  1.00 61.45           O
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ATOM	2766	CB	ALA	S	804	25.315	21.603	34.716	1.00	59.47	C
ATOM	2767	N	PRO	S	805	26.438	21.707	37.732	1.00	62.94	N
ATOM	2768	CA	PRO	S	805	27.547	21.398	38.652	1.00	63.79	C
ATOM	2769	C	PRO	S	805	28.616	20.498	38.003	1.00	64.48	C
ATOM	2770	O	PRO	S	805	28.368	19.875	36.970	1.00	65.26	O
ATOM	2771	CB	PRO	S	805	26.851	20.654	39.807	1.00	63.79	C
ATOM	2772	CG	PRO	S	805	25.582	20.066	39.187	1.00	63.48	C
ATOM	2773	CD	PRO	S	805	25.175	21.035	38.107	1.00	63.26	C
ATOM	2774	N	ILE	S	806	29.779	20.405	38.630	1.00	65.18	N
ATOM	2775	CA	ILE	S	806	30.903	19.626	38.100	1.00	65.66	C
ATOM	2776	C	ILE	S	806	30.853	18.145	38.489	1.00	65.84	C
ATOM	2777	O	ILE	S	806	30.287	17.780	39.522	1.00	66.22	O
ATOM	2778	CB	ILE	S	806	32.239	20.255	38.582	1.00	65.91	C
ATOM	2779	CG1	ILE	S	806	32.435	20.046	40.089	1.00	65.62	C
ATOM	2780	CG2	ILE	S	806	32.267	21.765	38.255	1.00	66.46	C
ATOM	2781	CD1	ILE	S	806	33.719	20.639	40.611	1.00	65.48	C
ATOM	2782	N	LEU	S	813	29.912	8.313	36.265	1.00	60.30	N
ATOM	2783	CA	LEU	S	813	30.605	8.781	35.059	1.00	60.57	C
ATOM	2784	C	LEU	S	813	29.707	9.617	34.157	1.00	60.31	C
ATOM	2785	O	LEU	S	813	28.484	9.496	34.194	1.00	60.27	O
ATOM	2786	CB	LEU	S	813	31.167	7.599	34.266	1.00	60.46	C
ATOM	2787	CG	LEU	S	813	32.067	6.674	35.092	1.00	60.30	C
ATOM	2788	CD1	LEU	S	813	32.450	5.418	34.281	1.00	61.04	C
ATOM	2789	CD2	LEU	S	813	33.301	7.421	35.602	1.00	59.11	C
ATOM	2790	N	GLN	S	814	30.344	10.465	33.355	1.00	60.31	N
ATOM	2791	CA	GLN	S	814	29.648	11.353	32.440	1.00	60.05	C
ATOM	2792	C	GLN	S	814	30.557	11.803	31.295	1.00	59.62	C
ATOM	2793	O	GLN	S	814	31.765	11.584	31.322	1.00	58.97	O
ATOM	2794	CB	GLN	S	814	29.176	12.583	33.194	1.00	60.41	C
ATOM	2795	CG	GLN	S	814	30.302	13.488	33.634	1.00	62.13	C
ATOM	2796	CD	GLN	S	814	29.826	14.603	34.559	1.00	64.43	C
ATOM	2797	OE1	GLN	S	814	29.260	14.327	35.616	1.00	65.48	O
ATOM	2798	NE2	GLN	S	814	30.058	15.859	34.167	1.00	65.06	N
ATOM	2799	N	GLY	S	815	29.960	12.456	30.302	1.00	59.55	N
ATOM	2800	CA	GLY	S	815	30.675	12.927	29.136	1.00	59.21	C
ATOM	2801	C	GLY	S	815	31.493	11.823	28.493	1.00	59.26	C
ATOM	2802	O	GLY	S	815	31.049	10.678	28.399	1.00	58.48	O
ATOM	2803	N	GLU	S	816	32.693	12.183	28.049	1.00	59.73	N
ATOM	2804	CA	GLU	S	816	33.604	11.254	27.392	1.00	60.76	C
ATOM	2805	C	GLU	S	816	33.768	9.941	28.168	1.00	61.61	C
ATOM	2806	O	GLU	S	816	33.861	8.866	27.567	1.00	61.64	O
ATOM	2807	CB	GLU	S	816	34.978	11.913	27.190	1.00	60.71	C
ATOM	2808	CG	GLU	S	816	35.802	11.304	26.064	1.00	61.12	C
ATOM	2809	CD	GLU	S	816	37.208	11.872	25.979	1.00	61.35	C
ATOM	2810	OE1	GLU	S	816	38.066	11.370	26.730	1.00	61.67	O
ATOM	2811	OE2	GLU	S	816	37.467	12.801	25.168	1.00	60.68	O
ATOM	2812	N	GLU	S	817	33.791	10.030	29.495	1.00	62.56	N
ATOM	2813	CA	GLU	S	817	33.962	8.851	30.332	1.00	63.66	C
ATOM	2814	C	GLU	S	817	32.748	7.929	30.260	1.00	63.92	C
ATOM	2815	O	GLU	S	817	32.887	6.709	30.187	1.00	63.68	O
ATOM	2816	CB	GLU	S	817	34.217	9.257	31.777	1.00	63.99	C
ATOM	2817	CG	GLU	S	817	35.518	10.012	31.974	1.00	65.72	C
ATOM	2818	CD	GLU	S	817	35.371	11.514	31.786	1.00	69.17	C
ATOM	2819	OE1	GLU	S	817	34.253	11.990	31.452	1.00	70.86	O
ATOM	2820	OE2	GLU	S	817	36.384	12.228	31.984	1.00	71.76	O
ATOM	2821	N	LEU	S	818	31.558	8.517	30.296	1.00	64.38	N
ATOM	2822	CA	LEU	S	818	30.344	7.733	30.191	1.00	65.00	C
ATOM	2823	C	LEU	S	818	30.367	6.935	28.890	1.00	65.31	C
ATOM	2824	O	LEU	S	818	30.166	5.723	28.901	1.00	65.41	O
ATOM	2825	CB	LEU	S	818	29.092	8.624	30.232	1.00	64.90	C
ATOM	2826	CG	LEU	S	818	27.770	7.844	30.163	1.00	64.94	C

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ATOM   2827  CD1 LEU S 818      27.702   6.871  31.316  1.00 66.53           C
ATOM   2828  CD2 LEU S 818      26.551   8.718  30.205  1.00 63.99           C
ATOM   2829  N   LEU S 819      30.647   7.627  27.787  1.00 65.71           N
ATOM   2830  CA  LEU S 819      30.608   7.037  26.445  1.00 66.10           C
ATOM   2831  C   LEU S 819      31.569   5.851  26.294  1.00 66.37           C
ATOM   2832  O   LEU S 819      31.174   4.773  25.852  1.00 65.86           O
ATOM   2833  CB  LEU S 819      30.901   8.122  25.392  1.00 66.04           C
ATOM   2834  CG  LEU S 819      30.860   7.737  23.916  1.00 66.00           C
ATOM   2835  CD1 LEU S 819      29.537   7.149  23.501  1.00 66.14           C
ATOM   2836  CD2 LEU S 819      31.162   8.967  23.083  1.00 67.31           C
ATOM   2837  N   ARG S 820      32.820   6.053  26.684  1.00 66.68           N
ATOM   2838  CA  ARG S 820      33.824   5.013  26.561  1.00 67.34           C
ATOM   2839  C   ARG S 820      33.492   3.801  27.432  1.00 67.41           C
ATOM   2840  O   ARG S 820      33.573   2.643  26.969  1.00 67.19           O
ATOM   2841  CB  ARG S 820      35.196   5.574  26.917  1.00 67.66           C
ATOM   2842  CG  ARG S 820      35.628   6.605  25.907  1.00 69.12           C
ATOM   2843  CD  ARG S 820      37.048   7.061  26.030  1.00 71.00           C
ATOM   2844  NE  ARG S 820      37.309   8.138  25.079  1.00 73.46           N
ATOM   2845  CZ  ARG S 820      38.442   8.839  25.014  1.00 75.31           C
ATOM   2846  NH1 ARG S 820      39.451   8.581  25.851  1.00 75.90           N
ATOM   2847  NH2 ARG S 820      38.566   9.806  24.104  1.00 75.55           N
ATOM   2848  N   ALA S 821      33.118   4.067  28.684  1.00 67.11           N
ATOM   2849  CA  ALA S 821      32.712   2.999  29.580  1.00 66.99           C
ATOM   2850  C   ALA S 821      31.609   2.171  28.898  1.00 66.76           C
ATOM   2851  O   ALA S 821      31.660   0.945  28.889  1.00 66.63           O
ATOM   2852  CB  ALA S 821      32.234   3.562  30.901  1.00 66.88           C
ATOM   2853  N   LEU S 822      30.625   2.851  28.313  1.00 66.58           N
ATOM   2854  CA  LEU S 822      29.538   2.173  27.607  1.00 66.36           C
ATOM   2855  C   LEU S 822      30.027   1.439  26.359  1.00 66.21           C
ATOM   2856  O   LEU S 822      29.429   0.444  25.956  1.00 66.11           O
ATOM   2857  CB  LEU S 822      28.451   3.172  27.223  1.00 66.06           C
ATOM   2858  CG  LEU S 822      27.710   3.789  28.406  1.00 65.45           C
ATOM   2859  CD1 LEU S 822      26.559   4.613  27.885  1.00 65.37           C
ATOM   2860  CD2 LEU S 822      27.213   2.732  29.396  1.00 65.08           C
TER    2861       LEU S 822
HETATM 2862  ZN    ZN A1350      23.324  27.578  28.817  1.00 32.29          ZN
HETATM 2863  C1  OGA A1351      22.262  25.308  27.891  1.00 34.79           C
HETATM 2864  C2  OGA A1351      21.209  25.940  28.487  1.00 32.90           C
HETATM 2865  C4  OGA A1351      18.882  25.730  29.253  1.00 32.24           C
HETATM 2866  C5  OGA A1351      17.543  25.251  28.735  1.00 32.20           C
HETATM 2867  O1  OGA A1351      22.091  24.207  27.399  1.00 33.47           O
HETATM 2868  O2  OGA A1351      23.404  25.817  27.813  1.00 33.83           O
HETATM 2869  O2' OGA A1351      21.299  27.077  29.004  1.00 31.02           O
HETATM 2870  O3  OGA A1351      17.430  24.476  27.795  1.00 33.67           O
HETATM 2871  N1  OGA A1351      20.067  25.271  28.520  1.00 29.83           N
HETATM 2872  O4  OGA A1351      16.551  25.641  29.307  1.00 32.21           O
HETATM 2873  S   SO4 A1352       0.290  25.194  43.827  1.00 90.02           S
HETATM 2874  O1  SO4 A1352       1.120  26.025  44.689  1.00 89.95           O
HETATM 2875  O2  SO4 A1352       1.151  24.261  43.106  1.00 88.91           O
HETATM 2876  O3  SO4 A1352      -0.627  24.447  44.672  1.00 90.38           O
HETATM 2877  O4  SO4 A1352      -0.468  26.028  42.891  1.00 89.30           O
HETATM 2878  S   SO4 A1353       1.893  28.515  29.870  1.00 98.62           S
HETATM 2879  O1  SO4 A1353       3.138  29.102  30.350  1.00 97.69           O
HETATM 2880  O2  SO4 A1353       2.145  27.399  28.947  1.00 97.91           O
HETATM 2881  O3  SO4 A1353       1.205  28.059  31.078  1.00 99.26           O
HETATM 2882  O4  SO4 A1353       1.078  29.515  29.171  1.00 98.46           O
HETATM 2883  O   HOH H    1      38.820  33.858  31.965  1.00 46.43           O
HETATM 2884  O   HOH H    2      33.795  30.509  39.255  1.00 71.93           O
HETATM 2885  O   HOH H    3      34.891  30.536  35.372  1.00 48.26           O
HETATM 2886  O   HOH H    4      35.615  13.844  24.220  1.00 48.67           O
HETATM 2887  O   HOH Z    1      11.592  21.463  13.878  1.00 49.06           O
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HETATM 2888  O   HOH Z   2       9.700  21.662  12.247  1.00 70.56           O
HETATM 2889  O   HOH Z   3       1.136  21.407   7.962  1.00 66.59           O
HETATM 2890  O   HOH Z   4       2.407  19.370   5.351  1.00 60.28           O
HETATM 2891  O   HOH Z   5       1.014  29.292  13.196  1.00 61.25           O
HETATM 2892  O   HOH Z   6       2.256  32.365  14.166  1.00 73.91           O
HETATM 2893  O   HOH Z   7      11.526  44.954  15.330  1.00 68.94           O
HETATM 2894  O   HOH Z   8      -1.438  30.257  22.663  1.00 85.46           O
HETATM 2895  O   HOH Z   9       7.738  30.579  27.736  1.00 46.83           O
HETATM 2896  O   HOH Z  10       3.543  32.597  32.323  1.00 73.21           O
HETATM 2897  O   HOH Z  11       6.618  43.722  26.114  1.00 79.20           O
HETATM 2898  O   HOH Z  12       4.723  37.184  27.600  1.00 69.48           O
HETATM 2899  O   HOH Z  13      10.942  35.610  30.382  1.00 48.93           O
HETATM 2900  O   HOH Z  14      13.888  48.615  19.570  1.00 55.60           O
HETATM 2901  O   HOH Z  15      12.153  41.664  15.818  1.00 61.09           O
HETATM 2902  O   HOH Z  16      15.898  30.602  12.921  1.00 48.84           O
HETATM 2903  O   HOH Z  17      13.629  22.042   7.314  1.00 56.45           O
HETATM 2904  O   HOH Z  18      14.608  26.242  13.702  1.00 55.84           O
HETATM 2905  O   HOH Z  19      21.110  23.978   3.732  1.00 49.91           O
HETATM 2906  O   HOH Z  20      22.517  24.246   0.061  1.00 58.70           O
HETATM 2907  O   HOH Z  21      27.322  30.745   5.813  1.00 71.25           O
HETATM 2908  O   HOH Z  22      26.669  21.831  43.291  1.00 84.79           O
HETATM 2909  O   HOH Z  23      36.928  29.423  21.116  1.00 60.53           O
HETATM 2910  O   HOH Z  24      28.560  37.933  15.396  1.00 65.84           O
HETATM 2911  O   HOH Z  25      29.717  37.018  10.091  1.00 70.57           O
HETATM 2912  O   HOH Z  26      19.889  17.921  13.411  1.00 40.68           O
HETATM 2913  O   HOH Z  27      18.190  15.068  13.047  1.00 45.64           O
HETATM 2914  O   HOH Z  28      19.229  14.479  16.581  1.00 44.23           O
HETATM 2915  O   HOH Z  29       5.509  12.781  28.209  1.00 48.58           O
HETATM 2916  O   HOH Z  30      19.118   6.397  36.829  1.00 62.79           O
HETATM 2917  O   HOH Z  31      33.446  44.026  25.377  1.00 68.72           O
HETATM 2918  O   HOH Z  32       8.427  26.875  44.426  1.00 65.85           O
HETATM 2919  O   HOH Z  33       9.122  31.413  42.815  1.00 79.14           O
HETATM 2920  O   HOH Z  34      15.645  37.855  35.686  1.00 55.81           O
HETATM 2921  O   HOH Z  35      16.264  30.912  40.283  1.00 52.67           O
HETATM 2922  O   HOH Z  36      28.580  24.804  42.231  1.00 71.47           O
HETATM 2923  O   HOH Z  37      25.125  24.702  42.513  1.00 61.76           O
HETATM 2924  O   HOH Z  38      31.710  33.903  46.336  1.00 58.86           O
HETATM 2925  O   HOH Z  39      24.430  38.695  49.842  1.00 64.87           O
HETATM 2926  O   HOH Z  40      21.999  17.349  48.274  1.00 78.90           O
HETATM 2927  O   HOH Z  41      22.174  10.277  34.700  1.00 61.90           O
HETATM 2928  O   HOH Z  42      17.917  -1.798  33.038  1.00 69.51           O
HETATM 2929  O   HOH Z  43      36.654  10.887   7.525  1.00 72.57           O
HETATM 2930  O   HOH Z  44      13.628  20.833  28.536  1.00 46.20           O
HETATM 2931  O   HOH Z  45       3.910  21.434  31.018  1.00 60.17           O
HETATM 2932  O   HOH Z  46      30.778  38.131  33.414  1.00 33.59           O
HETATM 2933  O   HOH Z  47      25.976  26.458  26.213  1.00 38.20           O
HETATM 2934  O   HOH Z  48      35.876  25.491  27.760  1.00 47.36           O
HETATM 2935  O   HOH Z  49      36.704  26.679  21.111  1.00 49.53           O
HETATM 2936  O   HOH Z  50      17.375  16.970  18.001  1.00 37.06           O
HETATM 2937  O   HOH Z  51       5.442  16.762  21.954  1.00 48.45           O
HETATM 2938  O   HOH Z  52       6.786  12.615  22.641  1.00 71.97           O
HETATM 2939  O   HOH Z  53       7.201  17.017  20.359  1.00 48.19           O
HETATM 2940  O   HOH Z  54       6.512  22.748  23.330  1.00 52.43           O
HETATM 2941  O   HOH Z  55      29.528  38.794  26.547  1.00 33.74           O
HETATM 2942  O   HOH Z  56      30.683  39.271  19.412  1.00 42.04           O
HETATM 2943  O   HOH Z  57      26.571  42.213  18.009  1.00 59.45           O
HETATM 2944  O   HOH Z  58      29.038  40.259  16.007  1.00 65.33           O
HETATM 2945  O   HOH Z  59      27.631  44.557  31.407  1.00 36.71           O
HETATM 2946  O   HOH Z  60      27.654  48.738  30.067  1.00 46.82           O
HETATM 2947  O   HOH Z  61      30.426  45.052  25.424  1.00 49.55           O
HETATM 2948  O   HOH Z  62      25.946  50.745  30.903  1.00 51.76           O
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HETATM 2949  O   HOH Z  63      26.759  31.212  38.332  1.00 39.21           O
HETATM 2950  O   HOH Z  64      29.563  36.988  35.538  1.00 36.58           O
HETATM 2951  O   HOH Z  65      30.608  30.268  36.508  1.00 39.97           O
HETATM 2952  O   HOH Z  66      19.823  31.620  33.966  1.00 44.64           O
HETATM 2953  O   HOH Z  67      19.517  36.182  33.531  1.00 39.38           O
HETATM 2954  O   HOH Z  68      18.255  38.678  36.813  1.00 57.99           O
HETATM 2955  O   HOH Z  69      21.026  42.838  40.240  1.00 56.11           O
HETATM 2956  O   HOH Z  70      17.610  37.832  32.310  1.00 47.08           O
HETATM 2957  O   HOH Z  71      15.109  37.973  32.827  1.00 45.82           O
HETATM 2958  O   HOH Z  72      16.418  47.375  39.219  1.00 67.81           O
HETATM 2959  O   HOH Z  73      15.605  44.895  35.040  1.00 43.78           O
HETATM 2960  O   HOH Z  74      15.286  55.715  27.660  1.00 67.46           O
HETATM 2961  O   HOH Z  75      15.476  50.403  22.363  1.00 44.42           O
HETATM 2962  O   HOH Z  76      16.645  46.682  22.198  1.00 39.25           O
HETATM 2963  O   HOH Z  77      26.589  40.795  15.622  1.00 68.21           O
HETATM 2964  O   HOH Z  78      10.674  19.290  14.058  1.00 55.87           O
HETATM 2965  O   HOH Z  79      27.773  27.556  24.476  1.00 37.12           O
HETATM 2966  O   HOH Z  80      30.214  36.062  27.011  1.00 40.11           O
HETATM 2967  O   HOH Z  81      32.661  34.179  19.369  1.00 54.04           O
HETATM 2968  O   HOH Z  82      27.339  30.221  25.948  1.00 38.07           O
HETATM 2969  O   HOH Z  83      16.261  36.239  29.815  1.00 43.65           O
HETATM 2970  O   HOH Z  84       6.400  23.973  25.697  1.00 45.37           O
HETATM 2971  O   HOH Z  85       4.061  20.777  20.758  1.00 74.60           O
HETATM 2972  O   HOH Z  86      42.841  37.277  18.598  1.00 67.00           O
HETATM 2973  O   HOH Z  87      42.456  44.259  19.547  1.00 64.85           O
HETATM 2974  O   HOH Z  88      33.750  36.936  20.231  1.00 46.70           O
HETATM 2975  O   HOH Z  89      33.208  39.305  33.829  1.00 37.00           O
HETATM 2976  O   HOH Z  90      32.098  40.251  44.432  1.00 46.81           O
HETATM 2977  O   HOH Z  91      32.904  43.762  45.581  1.00 58.90           O
HETATM 2978  O   HOH Z  92      39.242  57.294  42.204  1.00 36.08           O
HETATM 2979  O   HOH Z  93      46.926  53.378  32.000  1.00 42.91           O
HETATM 2980  O   HOH Z  94      37.922  55.476  29.664  1.00 46.42           O
HETATM 2981  O   HOH Z  95      38.489  59.800  33.014  1.00 55.47           O
CONECT 1478 2862
CONECT 1498 2862
CONECT 2167 2862
CONECT 2862 2869 2868 1478 2167 1498
CONECT 2863 2864 2867 2868
CONECT 2864 2863 2869 2871
CONECT 2865 2866 2871
CONECT 2866 2865 2870 2872
CONECT 2867 2863
CONECT 2868 2863 2862
CONECT 2869 2864 2862
CONECT 2870 2866
CONECT 2871 2864 2865
CONECT 2872 2866
CONECT 2873 2874 2875 2876 2877
CONECT 2874 2873
CONECT 2875 2873
CONECT 2876 2873
CONECT 2877 2873
CONECT 2878 2879 2880 2881 2882
CONECT 2879 2878
CONECT 2880 2878
CONECT 2881 2878
CONECT 2882 2878
MASTER      446    0    4   15   20    0    8    6 2979    2   24   31
END
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Structure 4

Below are the coordinates for structure 4 (the 2.85 Å structure of FIH:Fe(II):2OG):

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HEADER    TRANSCRIPTION ACTIVATOR/INHIBITOR       12-AUG-02   1H2N
TITLE     FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX WITH HIF-1 ALPHA
TITLE    2 FRAGMENT PEPTIDE
COMPND    MOL_ID: 1;
COMPND   2 MOLECULE: FACTOR INHIBITING HIF1;
COMPND   3 SYNONYM: FIH1;
COMPND   4 CHAIN: A;
COMPND   5 ENGINEERED: YES
SOURCE    MOL_ID: 1;
SOURCE   2 ORGANISM_SCIENTIFIC: HOMO SAPIENS;
SOURCE   3 ORGANISM_COMMON: HUMAN;
SOURCE   4 EXPRESSION_SYSTEM: ESCHERICHIA COLI;
SOURCE   5 EXPRESSION_SYSTEM_STRAIN: BL21(DE3);
SOURCE   6 EXPRESSION_SYSTEM_PLASMID: PET28A(+)
KEYWDS    FIH, HIF, DSBH, OXYGENASE, TRANSCRIPTION, HYPOXIA,
KEYWDS   2 2-OXOGLUTARATE, ASPARAGINYL HYDROXYLASE, HYDROXYLASE
EXPDTA    X-RAY DIFFRACTION
AUTHOR    J.M.ELKINS,K.S.HEWITSON,L.A.MCNEILL,I.SCHLEMMINGER,
AUTHOR   2 J.F.SEIBEL,C.J.SCHOFIELD
REVDAT   1   04-SEP-02 1H2N    0
JRNL        AUTH   J.M.ELKINS,K.S.HEWITSON,L.A.MCNEILL,
JRNL        AUTH 2 I.SCHLEMMINGER,J.F.SEIBEL,C.J.SCHOFIELD
JRNL        TITL   FIH:HIF-FRAGMENT COMPLEXES
JRNL        REF    TO BE PUBLISHED
JRNL        REFN
REMARK   2
REMARK   2 RESOLUTION. 2.84 ANGSTROMS.
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM      : REFMAC 5.0
REMARK   3   AUTHORS      : MURSHUDOV,VAGIN,DODSON
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   2.84
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  30.00
REMARK   3   DATA CUTOFF              (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.51
REMARK   3   NUMBER OF REFLECTIONS             :   12577
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD           : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION   : RANDOM
REMARK   3   R VALUE      (WORKING + TEST SET) : 0.23287
REMARK   3   R VALUE            (WORKING SET) :  0.23094
REMARK   3   FREE R VALUE                      :  0.25695
REMARK   3   FREE R VALUE TEST SET SIZE   (%) :  7.7
REMARK   3   FREE R VALUE TEST SET COUNT       :  1046
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED           :      20
REMARK   3   BIN RESOLUTION RANGE HIGH           :   2.840
REMARK   3   BIN RESOLUTION RANGE LOW            :   2.913
REMARK   3   REFLECTION IN BIN     (WORKING SET) :     828
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REMARK   3   BIN R VALUE                (WORKING SET) :     0.286
REMARK   3   BIN FREE R VALUE SET COUNT                :       81
REMARK   3   BIN FREE R VALUE                          :     0.315
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   PROTEIN ATOMS              : 2689
REMARK   3   NUCLEIC ACID ATOMS         : 0
REMARK   3   HETEROGEN ATOMS            : 26
REMARK   3   SOLVENT ATOMS              : 3
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT                (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  35.345
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) :    -1.02
REMARK   3    B22 (A**2) :    -1.02
REMARK   3    B33 (A**2) :     2.03
REMARK   3    B12 (A**2) :     0.00
REMARK   3    B13 (A**2) :     0.00
REMARK   3    B23 (A**2) :     0.00
REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                                (A):   0.852
REMARK   3   ESU BASED ON FREE R VALUE                           (A):   0.349
REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                     (A):   0.398
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):  19.679
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.913
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.901
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES          COUNT     RMS     WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS          (A):  2791 ; 0.015 ; 0.021
REMARK   3   BOND LENGTHS OTHERS                 (A):  2388 ; 0.001 ; 0.020
REMARK   3   BOND ANGLES REFINED ATOMS    (DEGREES):  3799 ; 1.628 ; 1.945
REMARK   3   BOND ANGLES OTHERS           (DEGREES):  5576 ; 0.823 ; 3.000
REMARK   3   TORSION ANGLES, PERIOD 1     (DEGREES):   330 ; 4.268 ; 3.000
REMARK   3   TORSION ANGLES, PERIOD 3     (DEGREES):   479 ;18.082 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS        (A**3):   384 ; 0.095 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS         (A):  3137 ; 0.005 ; 0.020
REMARK   3   GENERAL PLANES OTHERS                (A):   575 ; 0.002 ; 0.020
REMARK   3   NON-BONDED CONTACTS REFINED ATOMS    (A):   717 ; 0.255 ; 0.300
REMARK   3   NON-BONDED CONTACTS OTHERS           (A):  2425 ; 0.224 ; 0.300
REMARK   3   H-BOND (X...Y) REFINED ATOMS         (A):   165 ; 0.139 ; 0.500
REMARK   3   H-BOND (X...Y) OTHERS                (A):     1 ; 0.102 ; 0.500
REMARK   3   POTENTIAL METAL-ION REFINED ATOMS    (A):     3 ; 0.112 ; 0.500
REMARK   3   SYMMETRY VDW REFINED ATOMS           (A):    14 ; 0.256 ; 0.300
REMARK   3   SYMMETRY VDW OTHERS                  (A):    62 ; 0.273 ; 0.300
REMARK   3   SYMMETRY H-BOND REFINED ATOMS        (A):     4 ; 0.214 ; 0.500
REMARK   3   SYMMETRY H-BOND OTHERS               (A):     1 ; 0.061 ; 0.500
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.      COUNT     RMS     WEIGHT
REMARK   3   MAIN-CHAIN BOND REFINED ATOMS  (A**2):  1659 ; 0.312 ; 1.500
REMARK   3   MAIN-CHAIN ANGLE REFINED ATOMS (A**2):  2675 ; 0.598 ; 2.000
REMARK   3   SIDE-CHAIN BOND REFINED ATOMS  (A**2):  1132 ; 1.058 ; 3.000
REMARK   3   SIDE-CHAIN ANGLE REFINED ATOMS (A**2):  1124 ; 1.795 ; 4.500
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3  TLS DETAILS
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REMARK   3   NUMBER OF TLS GROUPS  :     1
REMARK   3
REMARK   3   TLS GROUP :      1
REMARK   3    NUMBER OF COMPONENTS GROUP :     1
REMARK   3    COMPONENTS               C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A    15          A   452
REMARK   3    ORIGIN FOR THE GROUP (A):  21.4490  27.4200  27.7870
REMARK   3    T TENSOR
REMARK   3      T11:   0.2230 T22:   0.0562
REMARK   3      T33:   0.0967 T12:   0.0111
REMARK   3      T13:  -0.0923 T23:   0.0525
REMARK   3    L TENSOR
REMARK   3      L11:   1.6842 L22:   4.4489
REMARK   3      L33:   2.0658 L12:   1.5597
REMARK   3      L13:   1.1572 L23:   2.3523
REMARK   3    S TENSOR
REMARK   3      S11:   0.1098 S12:  -0.2106 S13:  -0.0766
REMARK   3      S21:   0.3449 S22:  -0.0455 S23:   0.2455
REMARK   3      S31:   0.3515 S32:  -0.1199 S33:  -0.0643
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED : BABINET MODEL WITH MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.40
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS: SEE REMARK 400
REMARK   4
REMARK   4 1H2N COMPLIES WITH FORMAT V. 2.3, 09-JULY-1998
REMARK 100
REMARK 100 THIS ENTRY HAS BEEN PROCESSED BY EBI  ON 12-AUG-2002.
REMARK 100 THE EBI ID CODE IS EBI-11174.
REMARK 200
REMARK 200 EXPERIMENTAL DETAILS
REMARK 200  EXPERIMENT TYPE                : X-RAY DIFFRACTION
REMARK 200  DATE OF DATA COLLECTION        : 15-MAY-2002
REMARK 200  TEMPERATURE           (KELVIN) : 100
REMARK 200  PH                             : 7.5
REMARK 200  NUMBER OF CRYSTALS USED        : 1
REMARK 200
REMARK 200  SYNCHROTRON              (Y/N) : Y
REMARK 200  RADIATION SOURCE               : SRS BEAMLINE PX9.5
REMARK 200  BEAMLINE                       : PX9.5
REMARK 200  X-RAY GENERATOR MODEL          : NULL
REMARK 200  MONOCHROMATIC OR LAUE    (M/L) : M
REMARK 200  WAVELENGTH OR RANGE        (A) : 0.92
REMARK 200  MONOCHROMATOR                  : NULL
REMARK 200  OPTICS                         : NULL
REMARK 200
REMARK 200  DETECTOR TYPE                  : MARCCD
REMARK 200  DETECTOR MANUFACTURER          : MARRESEARCH
REMARK 200  INTENSITY-INTEGRATION SOFTWARE : MOSFLM
REMARK 200  DATA SCALING SOFTWARE          : SCALA
REMARK 200
REMARK 200  NUMBER OF UNIQUE REFLECTIONS   : 13703
REMARK 200  RESOLUTION RANGE HIGH      (A) : 2.84
REMARK 200  RESOLUTION RANGE LOW       (A) : 34.1
REMARK 200  REJECTION CRITERIA  (SIGMA(I)) : NONE
REMARK 200
REMARK 200 OVERALL.
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REMARK 200  COMPLETENESS FOR RANGE     (%) : 99.2
REMARK 200  DATA REDUNDANCY                : 6.7
REMARK 200  R MERGE                    (I) : 0.067
REMARK 200  R SYM                      (I) : NULL
REMARK 200  <I/SIGMA(I)> FOR THE DATA SET  : 9.4
REMARK 200
REMARK 200 IN THE HIGHEST RESOLUTION SHELL.
REMARK 200  HIGHEST RESOLUTION SHELL, RANGE HIGH (A) : 2.84
REMARK 200  HIGHEST RESOLUTION SHELL, RANGE LOW  (A) : 2.99
REMARK 200  COMPLETENESS FOR SHELL     (%) : 94.9
REMARK 200  DATA REDUNDANCY IN SHELL       : 5.2
REMARK 200  R MERGE FOR SHELL          (I) : 0.309
REMARK 200  R SYM FOR SHELL            (I) : NULL
REMARK 200  <I/SIGMA(I)> FOR SHELL         : 2.4
REMARK 200
REMARK 200 DIFFRACTION PROTOCOL: SINGLE WAVELENGTH
REMARK 200 METHOD USED TO DETERMINE THE STRUCTURE: MOLECULAR REPLACEMENT
REMARK 200 SOFTWARE USED: NULL
REMARK 200 STARTING MODEL: NULL
REMARK 200
REMARK 200 REMARK: SEE REMARK 400
REMARK 280
REMARK 280 CRYSTAL
REMARK 280 SOLVENT CONTENT, VS   (%): 63
REMARK 280 MATTHEWS COEFFICIENT, VM (ANGSTROMS**3/DA): 3.4
REMARK 280
REMARK 280 CRYSTALLIZATION CONDITIONS: 1.2M AMMONIUM SULPHATE,
REMARK 280  4% PEG400, 0.1M HEPES PH7.5 ARGON ATMOSPHERE,
REMARK 280  11MG/ML PROTEIN WITH 1MM FE(II), 2.5MM AKG AND 2.5MM
REMARK 280  PEPTIDE (SEE REMARK 400)
REMARK 290
REMARK 290 CRYSTALLOGRAPHIC SYMMETRY
REMARK 290 SYMMETRY OPERATORS FOR SPACE GROUP: P 41 21 2
REMARK 290
REMARK 290       SYMOP   SYMMETRY
REMARK 290      NNNMMM   OPERATOR
REMARK 290        1555   X,Y,Z
REMARK 290        2555   -X,-Y,1/2+Z
REMARK 290        3555   1/2-Y,1/2+X,1/4+Z
REMARK 290        4555   1/2+Y,1/2-X,3/4+Z
REMARK 290        5555   1/2-X,1/2+Y,1/4-Z
REMARK 290        6555   1/2+X,1/2-Y,3/4-Z
REMARK 290        7555   Y,X,-Z
REMARK 290        8555   -Y,-X,1/2-Z
REMARK 290
REMARK 290      WHERE NNN -> OPERATOR NUMBER
REMARK 290            MMM -> TRANSLATION VECTOR
REMARK 290
REMARK 290 CRYSTALLOGRAPHIC SYMMETRY TRANSFORMATIONS
REMARK 290 THE FOLLOWING TRANSFORMATIONS OPERATE ON THE ATOM/HETATM
REMARK 290 RECORDS IN THIS ENTRY TO PRODUCE CRYSTALLOGRAPHICALLY
REMARK 290 RELATED MOLECULES.
REMARK 290   SMTRY1   1  1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY2   1  0.000000  1.000000  0.000000        0.00000
REMARK 290   SMTRY3   1  0.000000  0.000000  1.000000        0.00000
REMARK 290   SMTRY1   2 -1.000000  0.000000  0.000000        0.00000
REMARK 290   SMTRY2   2  0.000000 -1.000000  0.000000        0.00000
REMARK 290   SMTRY3   2  0.000000  0.000000  1.000000       73.36600
REMARK 290   SMTRY1   3  0.000000 -1.000000  0.000000       43.17100
REMARK 290   SMTRY2   3  1.000000  0.000000  0.000000       43.17100
REMARK 290   SMTRY3   3  0.000000  0.000000  1.000000       36.68300
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REMARK 290    SMTRY1    4   0.000000   1.000000   0.000000        43.17100
REMARK 290    SMTRY2    4  -1.000000   0.000000   0.000000        43.17100
REMARK 290    SMTRY3    4   0.000000   0.000000   1.000000       110.04900
REMARK 290    SMTRY1    5  -1.000000   0.000000   0.000000        43.17100
REMARK 290    SMTRY2    5   0.000000   1.000000   0.000000        43.17100
REMARK 290    SMTRY3    5   0.000000   0.000000  -1.000000        36.68300
REMARK 290    SMTRY1    6   1.000000   0.000000   0.000000        43.17100
REMARK 290    SMTRY2    6   0.000000  -1.000000   0.000000        43.17100
REMARK 290    SMTRY3    6   0.000000   0.000000  -1.000000       110.04900
REMARK 290    SMTRY1    7   0.000000   1.000000   0.000000         0.00000
REMARK 290    SMTRY2    7   1.000000   0.000000   0.000000         0.00000
REMARK 290    SMTRY3    7   0.000000   0.000000  -1.000000         0.00000
REMARK 290    SMTRY1    8   0.000000  -1.000000   0.000000         0.00000
REMARK 290    SMTRY2    8  -1.000000   0.000000   0.000000         0.00000
REMARK 290    SMTRY3    8   0.000000   0.000000  -1.000000        73.36600
REMARK 290
REMARK 290 REMARK: NULL
REMARK 300
REMARK 300 BIOMOLECULE: 1
REMARK 300 THIS ENTRY CONTAINS THE CRYSTALLOGRAPHIC ASYMMETRIC UNIT
REMARK 300 WHICH CONSISTS OF   2 CHAIN(S). SEE REMARK 350 FOR
REMARK 300 INFORMATION ON GENERATING THE BIOLOGICAL MOLECULE(S).
REMARK 300
REMARK 300 QUATERNARY STRUCTURE FOR THIS ENTRY: DIMERIC
REMARK 300
REMARK 300 THE PROTEIN IS A HOMODIMER FORMED BY CHAIN A.
REMARK 300
REMARK 300 FOR THE HOMO-ASSEMBLY DESCRIBED BY REMARK 350
REMARK 300 THE DIFFERENCE IN ACCESSIBLE SURFACE AREA PER
REMARK 300 CHAIN BETWEEN THE ISOLATED CHAIN AND THAT FOR
REMARK 300 THE CHAIN IN THE COMPLEX IS  1600.4 ANGSTROM**2
REMARK 350
REMARK 350 GENERATING THE BIOMOLECULE
REMARK 350 COORDINATES FOR A COMPLETE MULTIMER REPRESENTING THE KNOWN
REMARK 350 BIOLOGICALLY SIGNIFICANT OLIGOMERIZATION STATE OF THE
REMARK 350 MOLECULE CAN BE GENERATED BY APPLYING BIOMT TRANSFORMATIONS
REMARK 350 GIVEN BELOW.  BOTH NON-CRYSTALLOGRAPHIC AND
REMARK 350 CRYSTALLOGRAPHIC OPERATIONS ARE GIVEN.
REMARK 350
REMARK 350 BIOMOLECULE:  1
REMARK 350 APPLY THE FOLLOWING TO CHAINS: A
REMARK 350    BIOMT1    1  1.000000  0.000000  0.000000        0.00000
REMARK 350    BIOMT2    1  0.000000  1.000000  0.000000        0.00000
REMARK 350    BIOMT3    1  0.000000  0.000000  1.000000        0.00000
REMARK 350    BIOMT1    2  0.000000 -1.000000  0.000000       86.34200
REMARK 350    BIOMT2    2 -1.000000  0.000000  0.000000       86.34200
REMARK 350    BIOMT3    2  0.000000  0.000000 -1.000000       73.36600
REMARK 400
REMARK 400 COMPOUND
REMARK 400
REMARK 400  THE PROTEIN (CHAIN A) WAS CRYSTALLIZED IN THE PRESENCE
REMARK 400  OF A PEPTIDE FRAGEMENT FROM ENDOTHELIAL PAS DOMAIN PROTEIN 1
REMARK 400  SWISS-PROT ID Q99814 (RESIDUES 846-858) BUT NONE OF THE
REMARK 400  RESIDUES CORRESPONDING TO THE PEPTIDE WERE VISIBLE IN THE
REMARK 400  ELECTRON DENSITY MAPS. IT IS POSSIBLE THAT THE PEPTIDE DID
REMARK 400  NOT BIND TO THE PROTEIN AND HENCE HAS NOT BEEN INCLUDED IN THE
REMARK 400  COMPND, SOURCE AND SEQRES RECORDS.
REMARK 400
REMARK 400  THE SEQUENCE OF THE FRAGMENT IS GIVEN BELOW.
REMARK 400
REMARK 400  VAL ASN VAL PRO VAL LEU GLY SER SER THR LEU LEU GLN
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REMARK 465
REMARK 465 MISSING RESIDUES
REMARK 465 THE FOLLOWING RESIDUES WERE NOT LOCATED IN THE
REMARK 465 EXPERIMENT. (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 465 IDENTIFIER; SSSEQ=SEQUENCE NUMBER; I=INSERTION CODE.)
REMARK 465
REMARK 465   M RES C SSSEQI
REMARK 465     MET A     1
REMARK 465     ALA A     2
REMARK 465     ALA A     3
REMARK 465     THR A     4
REMARK 465     ALA A     5
REMARK 465     ALA A     6
REMARK 465     GLU A     7
REMARK 465     ALA A     8
REMARK 465     VAL A     9
REMARK 465     ALA A    10
REMARK 465     SER A    11
REMARK 465     GLY A    12
REMARK 465     SER A    13
REMARK 465     GLY A    14
REMARK 465     LYS A   304
REMARK 465     ARG A   305
REMARK 465     ILE A   306
REMARK 470
REMARK 470 MISSING ATOM
REMARK 470 THE FOLLOWING RESIDUES HAVE MISSING ATOMS (M=MODEL NUMBER;
REMARK 470 RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE NUMBER;
REMARK 470 I=INSERTION CODE):
REMARK 470   M RES CSSEQI  ATOMS
REMARK 470     GLU A  15    CG   CD   OE1  OE2
REMARK 470     GLU A  29    CG   CD   OE1  OE2
REMARK 470     ASN A  87    CG   OD1  ND2
REMARK 470     LYS A 106    CD   CE   NZ
REMARK 470     LYS A 115    CG   CD   CE   NZ
REMARK 470     ARG A 117    CG   CD   NE   CZ   NH1  NH2
REMARK 470     GLN A 133    CG   CD   OE1  NE2
REMARK 470     GLN A 136    CG   CD   OE1  NE2
REMARK 470     GLN A 137    CG   CD   OE1  NE2
REMARK 470     ARG A 156    CG   CD   NE   CZ   NH1  NH2
REMARK 470     LYS A 157    CD   CE   NZ
REMARK 470     LYS A 311    CG   CD   CE   NZ
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND ANGLES
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 500 IDENTIFIER; SSEQ=SEQUENCE NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,A3,1X,A1,I4,A1,3(1X,A4,2X),12X,F5.1)
REMARK 500
REMARK 500 EXPECTED VALUES: ENGH AND HUBER, 1991
REMARK 500
REMARK 500  M RES CSSEQI ATM1   ATM2   ATM3
REMARK 500    TYR A 261   N    -  CA   -  C    ANGL. DEV. = -10.1 DEGREES
REMARK 500
REMARK 500 REMARK: NULL
REMARK 500
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REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND LENGTHS
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD AND BY MORE THAN 0.150 ANGSTROMS (M=MODEL
REMARK 500 NUMBER; RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE
REMARK 500 NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,A3,1X,A1,I4,A1,1X,2(A4,A1,3X),12X,F5.3)
REMARK 500
REMARK 500 EXPECTED VALUESS: ENGH AND HUBER, 1991
REMARK 500
REMARK 500  M RES CSSEQI ATM1   RES CSSEQI ATM2   DEVIATION
REMARK 500    MET A 343  SD     MET A 343  CE      -0.151
REMARK 500
REMARK 500 REMARK: NULL
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: CLOSE CONTACTS IN SAME ASYMMETRIC UNIT
REMARK 500
REMARK 500 THE FOLLOWING ATOMS ARE IN CLOSE CONTACT.
REMARK 500
REMARK 500  ATM1  RES C  SSEQI   ATM2  RES C  SSEQI            DISTANCE
REMARK 500
REMARK 500   OG1  THR A    39     OE1  GLU A   262              2.16
REMARK 525
REMARK 525 SOLVENT
REMARK 525
REMARK 525 THE SOLVENT MOLECULES ARE GIVEN CHAIN IDENTIFIERS TO
REMARK 525 INDICATE THE PROTEIN CHAIN TO WHICH THEY ARE MOST CLOSELY
REMARK 525 ASSOCIATED WITH:
REMARK 525   PROTEIN CHAIN  SOLVENT CHAIN
REMARK 525     A              Z
REMARK 600
REMARK 600 HETEROGEN
REMARK 600
REMARK 600 FOR METAL ATOM FE   FE2 A1350  THE COORDINATION ANGLES ARE:
REMARK 600  1 HIS   199A  NE2
REMARK 600  2 ASP   201A  OD2       106.1
REMARK 600  3 HIS   279A  NE2        77.8  85.5
REMARK 600  4 AKG  1351A  O1        168.0  81.1  93.4
REMARK 600  5 AKG  1351A  O5         88.7 163.3  90.2  83.1
REMARK 600                           1     2     3     4
REMARK 700
REMARK 700 SHEET
REMARK 700 THE SHEET STRUCTURE OF THIS MOLECULE IS BIFURCATED. IN
REMARK 700 ORDER TO REPRESENT THIS FEATURE IN THE SHEET RECORDS BELOW,
REMARK 700 TWO SHEETS ARE DEFINED.
REMARK 800
REMARK 800 SITE
REMARK 800 SITE_IDENTIFIER: FEA
REMARK 800 SITE_DESCRIPTION: FE BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: AKG
REMARK 800 SITE_DESCRIPTION: AKG BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: SA1
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 800
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REMARK 800 SITE_IDENTIFIER: SA2
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 800
REMARK 800 SITE_IDENTIFIER: SA3
REMARK 800 SITE_DESCRIPTION: SO4 BINDING SITE FOR CHAIN A
REMARK 900
REMARK 900 RELATED ENTRIES
REMARK 900 RELATED ID: 1H2K   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1H2L   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
REMARK 900 RELATED ID: 1H2M   RELATED DB: PDB
REMARK 900  FACTOR INHIBITING HIF-1 ALPHA IN COMPLEX
REMARK 900  WITH HIF-1 ALPHA FRAGMENT PEPTIDE
DBREF  1H2N A    1   349  SWS    Q969Q7   Q969Q7             1     349
SEQRES   1 A  349  MET ALA ALA THR ALA ALA GLU ALA VAL ALA SER GLY SER
SEQRES   2 A  349  GLY GLU PRO ARG GLU GLU ALA GLY ALA LEU GLY PRO ALA
SEQRES   3 A  349  TRP ASP GLU SER GLN LEU ARG SER TYR SER PHE PRO THR
SEQRES   4 A  349  ARG PRO ILE PRO ARG LEU SER GLN SER ASP PRO ARG ALA
SEQRES   5 A  349  GLU GLU LEU ILE GLU ASN GLU GLU PRO VAL VAL LEU THR
SEQRES   6 A  349  ASP THR ASN LEU VAL TYR PRO ALA LEU LYS TRP ASP LEU
SEQRES   7 A  349  GLU TYR LEU GLN GLU ASN ILE GLY ASN GLY ASP PHE SER
SEQRES   8 A  349  VAL TYR SER ALA SER THR HIS LYS PHE LEU TYR TYR ASP
SEQRES   9 A  349  GLU LYS LYS MET ALA ASN PHE GLN ASN PHE LYS PRO ARG
SEQRES  10 A  349  SER ASN ARG GLU GLU MET LYS PHE HIS GLU PHE VAL GLU
SEQRES  11 A  349  LYS LEU GLN ASP ILE GLN GLN ARG GLY GLY GLU GLU ARG
SEQRES  12 A  349  LEU TYR LEU GLN GLN THR LEU ASN ASP THR VAL GLY ARG
SEQRES  13 A  349  LYS ILE VAL MET ASP PHE LEU GLY PHE ASN TRP ASN TRP
SEQRES  14 A  349  ILE ASN LYS GLN GLN GLY LYS ARG GLY TRP GLY GLN LEU
SEQRES  15 A  349  THR SER ASN LEU LEU LEU ILE GLY MET GLU GLY ASN VAL
SEQRES  16 A  349  THR PRO ALA HIS TYR ASP GLU GLN GLN ASN PHE PHE ALA
SEQRES  17 A  349  GLN ILE LYS GLY TYR LYS ARG CYS ILE LEU PHE PRO PRO
SEQRES  18 A  349  ASP GLN PHE GLU CYS LEU TYR PRO TYR PRO VAL HIS HIS
SEQRES  19 A  349  PRO CYS ASP ARG GLN SER GLN VAL ASP PHE ASP ASN PRO
SEQRES  20 A  349  ASP TYR GLU ARG PHE PRO ASN PHE GLN ASN VAL VAL GLY
SEQRES  21 A  349  TYR GLU THR VAL VAL GLY PRO GLY ASP VAL LEU TYR ILE
SEQRES  22 A  349  PRO MET TYR TRP TRP HIS HIS ILE GLU SER LEU LEU ASN
SEQRES  23 A  349  GLY GLY ILE THR ILE THR VAL ASN PHE TRP TYR LYS GLY
SEQRES  24 A  349  ALA PRO THR PRO LYS ARG ILE GLU TYR PRO LEU LYS ALA
SEQRES  25 A  349  HIS GLN LYS VAL ALA ILE MET ARG ASN ILE GLU LYS MET
SEQRES  26 A  349  LEU GLY GLU ALA LEU GLY ASN PRO GLN GLU VAL GLY PRO
SEQRES  27 A  349  LEU LEU ASN THR MET ILE LYS GLY ARG TYR ASN
HET     FE2  A1350       1
HET     AKG  A1351      10
HET     SO4  A1352       5
HET     SO4  A1353       5
HET     SO4  A1354       5
HETNAM      FE2 FE (II) ION
HETNAM      AKG 2-OXYGLUTARIC ACID
HETNAM      SO4 SULFATE ION
FORMUL   3  FE2    FE1 2+
FORMUL   4  AKG    C5 H6 O5
FORMUL   5  SO4    3(O4 S1 2-)
FORMUL   6  HOH   *3(H2 O1)
HELIX    1   1 ASP A   28  LEU A   32  5                                   5
HELIX    2   2 ASP A   49  ASN A   58  1                                  10
HELIX    3   3 VAL A   70  TRP A   76  5                                   7
HELIX    4   4 ASP A   77  ILE A   85  1                                   9
HELIX    5   5 ASP A  104  GLN A  112  5                                   9
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HELIX    6   6 PHE A  125  ARG A  138  1                                          14
HELIX    7   7 GLY A  155  GLY A  164  1                                          10
HELIX    8   8 ASN A  166  ARG A  177  1                                          12
HELIX    9   9 PRO A  220  ASP A  222  5                                           3
HELIX   10  10 GLN A  223  TYR A  228  1                                           6
HELIX   11  11 PHE A  252  VAL A  258  5                                           7
HELIX   12  12 LYS A  311  GLY A  331  1                                          21
HELIX   13  13 ASN A  332  GLN A  334  5                                           3
HELIX   14  14 GLU A  335  LYS A  345  1                                          11
SHEET    1  AA 5 THR A  39   PRO A  41   0
SHEET    2  AA 5 GLY A 260   VAL A 265   1  O  GLY A 260   N  ARG A  40
SHEET    3  AA 5 LYS A 214   PHE A 219  -1  O  LYS A 214   N  VAL A 265
SHEET    4  AA 5 TRP A 278   SER A 283  -1  O  TRP A 278   N  PHE A 219
SHEET    5  AA 5 VAL A 195   HIS A 199  -1  O  THR A 196   N  ILE A 281
SHEET    1  AB 6 ARG A  44   LEU A  45   0
SHEET    2  AB 6 VAL A  62   LEU A  64   1  O  VAL A  63   N  LEU A  45
SHEET    3  AB 6 VAL A 270   ILE A 273  -1  O  VAL A 270   N  LEU A  64
SHEET    4  AB 6 GLN A 203   LYS A 211  -1  O  ASN A 205   N  ILE A 273
SHEET    5  AB 6 THR A 290   LYS A 298  -1  O  ILE A 291   N  ILE A 210
SHEET    6  AB 6 LEU A 182   SER A 184  -1  N  THR A 183   O  TRP A 296
SHEET    1  AC 9 ARG A  44   LEU A  45   0
SHEET    2  AC 9 VAL A  62   LEU A  64   1  O  VAL A  63   N  LEU A  45
SHEET    3  AC 9 VAL A 270   ILE A 273  -1  O  VAL A 270   N  LEU A  64
SHEET    4  AC 9 GLN A 203   LYS A 211  -1  O  ASN A 205   N  ILE A 273
SHEET    5  AC 9 THR A 290   LYS A 298  -1  O  ILE A 291   N  ILE A 210
SHEET    6  AC 9 LEU A 186   GLY A 190  -1  O  LEU A 186   N  ASN A 294
SHEET    7  AC 9 ARG A 143   THR A 149  -1  O  LEU A 146   N  ILE A 189
SHEET    8  AC 9 ASP A  89   ALA A  95  -1  O  SER A  91   N  GLN A 147
SHEET    9  AC 9 SER A 118   LYS A 124  -1  O  ASN A 119   N  SER A  94
LINK         FE   FE2 A1350                 NE2 HIS A 199     1555   1555
LINK         FE   FE2 A1350                 OD2 ASP A 201     1555   1555
LINK         FE   FE2 A1350                 NE2 HIS A 279     1555   1555
LINK         FE   FE2 A1350                 O1  AKG A1351     1555   1555
LINK         FE   FE2 A1350                 O5  AKG A1351     1555   1555
CISPEP   1 TYR A  308    PRO A  309          0         2.48
SITE     1 FEA  3 HIS A 199  ASP A 201  HIS A 279
SITE     1 AKG 13 TYR A 145  LEU A 188  THR A 196  HIS A 199
SITE     2 AKG 13 ASP A 201  ASN A 205  PHE A 207  LYS A 214
SITE     3 AKG 13 HIS A 279  ILE A 281  ASN A 294  TRP A 296
SITE     4 AKG 13 HOH Z   1
SITE     1 SA1  4 ARG A 138  GLY A 140  GLU A 141  GLU A 142
SITE     1 SA2  5 ARG A 143  GLU A 192  GLY A 193  LEU A 285
SITE     2 SA2  5 ASN A 286
SITE     1 SA3  4 LYS A 107  GLU A 202  ARG A 320  LYS A 324
CRYST1   86.342   86.342  146.732  90.00  90.00  90.00 P 41 21 2      8
ORIGX1      1.000000  0.000000  0.000000        0.00000
ORIGX2      0.000000  1.000000  0.000000        0.00000
ORIGX3      0.000000  0.000000  1.000000        0.00000
SCALE1      0.011582  0.000000  0.000000        0.00000
SCALE2      0.000000  0.011582  0.000000        0.00000
SCALE3      0.000000  0.000000  0.006815        0.00000
ATOM      1  N   GLU A  15       8.558  32.684   9.824  1.00 41.85           N
ATOM      2  CA  GLU A  15       7.178  32.135   9.672  1.00 42.19           C
ATOM      3  C   GLU A  15       7.180  30.645   9.998  1.00 42.19           C
ATOM      4  O   GLU A  15       7.959  29.895   9.424  1.00 42.28           O
ATOM      5  CB  GLU A  15       6.661  32.366   8.258  1.00 42.28           C
ATOM      6  N   PRO A  16       6.281  30.198  10.866  1.00 42.29           N
ATOM      7  CA  PRO A  16       6.376  28.826  11.391  1.00 42.53           C
ATOM      8  C   PRO A  16       6.351  27.762  10.307  1.00 42.54           C
ATOM      9  O   PRO A  16       5.571  27.819   9.369  1.00 42.92           O
ATOM     10  CB  PRO A  16       5.172  28.713  12.337  1.00 42.63           C
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ATOM     11  CG  PRO A  16       4.749  30.155  12.612  1.00 42.41           C
ATOM     12  CD  PRO A  16       5.103  30.916  11.382  1.00 42.22           C
ATOM     13  N   ARG A  17       7.231  26.791  10.446  1.00 42.51           N
ATOM     14  CA  ARG A  17       7.337  25.723   9.478  1.00 42.62           C
ATOM     15  C   ARG A  17       6.095  24.856   9.527  1.00 42.85           C
ATOM     16  O   ARG A  17       5.492  24.705  10.587  1.00 43.51           O
ATOM     17  CB  ARG A  17       8.505  24.800   9.845  1.00 42.50           C
ATOM     18  CG  ARG A  17       9.871  25.434   9.859  1.00 42.22           C
ATOM     19  CD  ARG A  17      10.995  24.466  10.228  1.00 42.12           C
ATOM     20  NE  ARG A  17      11.085  24.138  11.656  1.00 42.49           N
ATOM     21  CZ  ARG A  17      11.588  24.943  12.607  1.00 42.43           C
ATOM     22  NH1 ARG A  17      12.033  26.158  12.316  1.00 42.11           N
ATOM     23  NH2 ARG A  17      11.649  24.529  13.869  1.00 42.25           N
ATOM     24  N   GLU A  18       5.742  24.242   8.404  1.00 42.60           N
ATOM     25  CA  GLU A  18       4.662  23.268   8.405  1.00 42.36           C
ATOM     26  C   GLU A  18       5.203  21.870   8.728  1.00 41.90           C
ATOM     27  O   GLU A  18       6.249  21.472   8.216  1.00 41.98           O
ATOM     28  CB  GLU A  18       3.988  23.224   7.041  1.00 42.57           C
ATOM     29  CG  GLU A  18       3.363  24.537   6.620  1.00 43.60           C
ATOM     30  CD  GLU A  18       1.993  24.756   7.233  1.00 45.11           C
ATOM     31  OE1 GLU A  18       1.365  23.766   7.686  1.00 45.48           O
ATOM     32  OE2 GLU A  18       1.546  25.926   7.253  1.00 46.49           O
ATOM     33  N   GLU A  19       4.487  21.133   9.578  1.00 41.27           N
ATOM     34  CA  GLU A  19       4.806  19.737   9.894  1.00 40.61           C
ATOM     35  C   GLU A  19       4.478  18.802   8.748  1.00 39.73           C
ATOM     36  O   GLU A  19       3.424  18.915   8.137  1.00 39.76           O
ATOM     37  CB  GLU A  19       4.024  19.299  11.128  1.00 40.72           C
ATOM     38  CG  GLU A  19       4.507  20.034  12.361  1.00 42.24           C
ATOM     39  CD  GLU A  19       4.358  19.278  13.668  1.00 44.37           C
ATOM     40  OE1 GLU A  19       3.852  18.127  13.680  1.00 46.17           O
ATOM     41  OE2 GLU A  19       4.769  19.863  14.700  1.00 45.44           O
ATOM     42  N   ALA A  20       5.369  17.859   8.478  1.00 38.99           N
ATOM     43  CA  ALA A  20       5.164  16.922   7.390  1.00 38.71           C
ATOM     44  C   ALA A  20       3.831  16.232   7.542  1.00 38.51           C
ATOM     45  O   ALA A  20       3.391  15.933   8.649  1.00 38.80           O
ATOM     46  CB  ALA A  20       6.280  15.895   7.328  1.00 38.51           C
ATOM     47  N   GLY A  21       3.180  15.991   6.419  1.00 38.03           N
ATOM     48  CA  GLY A  21       1.924  15.290   6.449  1.00 38.11           C
ATOM     49  C   GLY A  21       0.746  16.205   6.682  1.00 38.19           C
ATOM     50  O   GLY A  21      -0.328  15.743   7.049  1.00 38.25           O
ATOM     51  N   ALA A  22       0.941  17.497   6.447  1.00 38.40           N
ATOM     52  CA  ALA A  22      -0.130  18.472   6.571  1.00 38.50           C
ATOM     53  C   ALA A  22      -0.725  18.413   7.960  1.00 38.60           C
ATOM     54  O   ALA A  22      -1.930  18.547   8.142  1.00 38.65           O
ATOM     55  CB  ALA A  22      -1.196  18.242   5.520  1.00 38.61           C
ATOM     56  N   LEU A  23       0.135  18.206   8.946  1.00 38.75           N
ATOM     57  CA  LEU A  23      -0.297  18.257  10.330  1.00 38.82           C
ATOM     58  C   LEU A  23      -0.321  19.684  10.843  1.00 38.78           C
ATOM     59  O   LEU A  23      -0.525  19.919  12.030  1.00 38.74           O
ATOM     60  CB  LEU A  23       0.597  17.392  11.193  1.00 38.77           C
ATOM     61  CG  LEU A  23       0.421  15.952  10.736  1.00 39.03           C
ATOM     62  CD1 LEU A  23       1.203  14.958  11.579  1.00 39.08           C
ATOM     63  CD2 LEU A  23      -1.070  15.636  10.750  1.00 39.43           C
ATOM     64  N   GLY A  24      -0.094  20.636   9.947  1.00 38.75           N
ATOM     65  CA  GLY A  24      -0.248  22.025  10.298  1.00 38.79           C
ATOM     66  C   GLY A  24       0.972  22.669  10.861  1.00 38.90           C
ATOM     67  O   GLY A  24       2.042  22.084  10.961  1.00 39.06           O
ATOM     68  N   PRO A  25       0.791  23.906  11.267  1.00 39.19           N
ATOM     69  CA  PRO A  25       1.903  24.682  11.778  1.00 39.35           C
ATOM     70  C   PRO A  25       2.332  24.037  13.074  1.00 39.62           C
ATOM     71  O   PRO A  25       1.492  23.633  13.871  1.00 39.48           O
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ATOM     72  CB  PRO A  25       1.299  26.062  12.019  1.00 39.24           C
ATOM     73  CG  PRO A  25      -0.142  25.920  11.961  1.00 38.71           C
ATOM     74  CD  PRO A  25      -0.490  24.616  11.365  1.00 39.17           C
ATOM     75  N   ALA A  26       3.631  23.899  13.252  1.00 40.22           N
ATOM     76  CA  ALA A  26       4.170  23.342  14.476  1.00 40.79           C
ATOM     77  C   ALA A  26       3.930  24.294  15.666  1.00 41.07           C
ATOM     78  O   ALA A  26       3.769  23.837  16.797  1.00 41.57           O
ATOM     79  CB  ALA A  26       5.633  23.068  14.300  1.00 40.98           C
ATOM     80  N   TRP A  27       3.931  25.605  15.429  1.00 40.80           N
ATOM     81  CA  TRP A  27       3.543  26.552  16.477  1.00 40.67           C
ATOM     82  C   TRP A  27       2.982  27.848  15.880  1.00 40.33           C
ATOM     83  O   TRP A  27       2.777  27.940  14.675  1.00 40.13           O
ATOM     84  CB  TRP A  27       4.742  26.860  17.358  1.00 40.70           C
ATOM     85  CG  TRP A  27       5.942  27.014  16.558  1.00 41.36           C
ATOM     86  CD1 TRP A  27       6.762  26.023  16.074  1.00 43.03           C
ATOM     87  CD2 TRP A  27       6.466  28.233  16.084  1.00 40.41           C
ATOM     88  NE1 TRP A  27       7.788  26.579  15.344  1.00 42.65           N
ATOM     89  CE2 TRP A  27       7.618  27.938  15.331  1.00 41.20           C
ATOM     90  CE3 TRP A  27       6.081  29.555  16.223  1.00 40.47           C
ATOM     91  CZ2 TRP A  27       8.370  28.912  14.732  1.00 41.10           C
ATOM     92  CZ3 TRP A  27       6.827  30.514  15.640  1.00 41.11           C
ATOM     93  CH2 TRP A  27       7.962  30.198  14.900  1.00 41.57           C
ATOM     94  N   ASP A  28       2.677  28.830  16.723  1.00 39.99           N
ATOM     95  CA  ASP A  28       2.322  30.143  16.209  1.00 39.78           C
ATOM     96  C   ASP A  28       2.802  31.257  17.121  1.00 39.17           C
ATOM     97  O   ASP A  28       3.227  31.013  18.240  1.00 39.00           O
ATOM     98  CB  ASP A  28       0.826  30.254  15.981  1.00 40.16           C
ATOM     99  CG  ASP A  28       0.066  30.380  17.258  1.00 40.79           C
ATOM    100  OD1 ASP A  28       0.044  31.496  17.821  1.00 41.30           O
ATOM    101  OD2 ASP A  28      -0.531  29.414  17.774  1.00 42.25           O
ATOM    102  N   GLU A  29       2.720  32.486  16.624  1.00 38.73           N
ATOM    103  CA  GLU A  29       3.223  33.663  17.341  1.00 38.23           C
ATOM    104  C   GLU A  29       2.739  33.764  18.781  1.00 37.69           C
ATOM    105  O   GLU A  29       3.492  34.131  19.664  1.00 37.34           O
ATOM    106  CB  GLU A  29       2.834  34.924  16.594  1.00 38.20           C
ATOM    107  N   SER A  30       1.482  33.418  19.012  1.00 37.46           N
ATOM    108  CA  SER A  30       0.874  33.583  20.324  1.00 37.18           C
ATOM    109  C   SER A  30       1.562  32.774  21.399  1.00 36.93           C
ATOM    110  O   SER A  30       1.282  32.949  22.577  1.00 36.82           O
ATOM    111  CB  SER A  30      -0.595  33.164  20.284  1.00 37.23           C
ATOM    112  OG  SER A  30      -0.744  31.792  20.619  1.00 36.97           O
ATOM    113  N   GLN A  31       2.441  31.867  20.999  1.00 36.85           N
ATOM    114  CA  GLN A  31       3.128  31.021  21.961  1.00 36.77           C
ATOM    115  C   GLN A  31       4.445  31.636  22.340  1.00 36.59           C
ATOM    116  O   GLN A  31       5.141  31.127  23.220  1.00 36.74           O
ATOM    117  CB  GLN A  31       3.366  29.621  21.395  1.00 36.71           C
ATOM    118  CG  GLN A  31       2.084  28.828  21.234  1.00 36.97           C
ATOM    119  CD  GLN A  31       2.282  27.497  20.560  1.00 36.68           C
ATOM    120  OE1 GLN A  31       2.133  27.386  19.346  1.00 36.62           O
ATOM    121  NE2 GLN A  31       2.601  26.478  21.343  1.00 36.85           N
ATOM    122  N   LEU A  32       4.794  32.726  21.670  1.00 36.32           N
ATOM    123  CA  LEU A  32       6.050  33.381  21.942  1.00 36.17           C
ATOM    124  C   LEU A  32       5.817  34.498  22.921  1.00 36.09           C
ATOM    125  O   LEU A  32       4.837  35.233  22.815  1.00 36.18           O
ATOM    126  CB  LEU A  32       6.673  33.928  20.664  1.00 36.07           C
ATOM    127  CG  LEU A  32       6.990  32.871  19.604  1.00 36.72           C
ATOM    128  CD1 LEU A  32       7.747  33.457  18.453  1.00 36.96           C
ATOM    129  CD2 LEU A  32       7.797  31.744  20.161  1.00 37.31           C
ATOM    130  N   ARG A  33       6.700  34.576  23.908  1.00 35.99           N
ATOM    131  CA  ARG A  33       6.713  35.671  24.851  1.00 36.15           C
ATOM    132  C   ARG A  33       7.171  36.941  24.130  1.00 35.95           C
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ATOM	133	O	ARG	A	33	7.950	36.888	23.188	1.00	35.75	O
ATOM	134	CB	ARG	A	33	7.671	35.350	25.991	1.00	36.41	C
ATOM	135	CG	ARG	A	33	7.210	34.204	26.854	1.00	36.76	C
ATOM	136	CD	ARG	A	33	8.082	33.948	28.070	1.00	36.81	C
ATOM	137	NE	ARG	A	33	7.479	32.927	28.923	1.00	37.39	N
ATOM	138	CZ	ARG	A	33	6.501	33.160	29.785	1.00	37.61	C
ATOM	139	NH1	ARG	A	33	6.027	34.385	29.931	1.00	37.75	N
ATOM	140	NH2	ARG	A	33	6.001	32.171	30.513	1.00	38.47	N
ATOM	141	N	SER	A	34	6.707	38.088	24.588	1.00	35.92	N
ATOM	142	CA	SER	A	34	7.017	39.331	23.902	1.00	36.05	C
ATOM	143	C	SER	A	34	8.044	40.146	24.671	1.00	35.47	C
ATOM	144	O	SER	A	34	7.940	40.311	25.884	1.00	35.41	O
ATOM	145	CB	SER	A	34	5.732	40.120	23.691	1.00	36.27	C
ATOM	146	OG	SER	A	34	5.046	40.253	24.920	1.00	37.99	O
ATOM	147	N	TYR	A	35	9.031	40.655	23.945	1.00	35.01	N
ATOM	148	CA	TYR	A	35	10.140	41.370	24.543	1.00	34.69	C
ATOM	149	C	TYR	A	35	10.400	42.693	23.853	1.00	34.59	C
ATOM	150	O	TYR	A	35	9.841	42.989	22.813	1.00	34.45	O
ATOM	151	CB	TYR	A	35	11.384	40.501	24.469	1.00	34.71	C
ATOM	152	CG	TYR	A	35	11.228	39.222	25.232	1.00	34.43	C
ATOM	153	CD1	TYR	A	35	10.928	39.246	26.573	1.00	33.87	C
ATOM	154	CD2	TYR	A	35	11.350	37.986	24.602	1.00	35.32	C
ATOM	155	CE1	TYR	A	35	10.775	38.087	27.285	1.00	34.96	C
ATOM	156	CE2	TYR	A	35	11.192	36.807	25.309	1.00	35.50	C
ATOM	157	CZ	TYR	A	35	10.904	36.865	26.653	1.00	35.16	C
ATOM	158	OH	TYR	A	35	10.742	35.709	27.376	1.00	34.77	O
ATOM	159	N	SER	A	36	11.290	43.481	24.429	1.00	34.77	N
ATOM	160	CA	SER	A	36	11.572	44.814	23.924	1.00	34.74	C
ATOM	161	C	SER	A	36	12.567	44.926	22.771	1.00	34.30	C
ATOM	162	O	SER	A	36	12.805	46.011	22.287	1.00	34.23	O
ATOM	163	CB	SER	A	36	12.127	45.627	25.077	1.00	34.91	C
ATOM	164	OG	SER	A	36	13.395	45.116	25.449	1.00	35.56	O
ATOM	165	N	PHE	A	37	13.155	43.838	22.318	1.00	34.15	N
ATOM	166	CA	PHE	A	37	14.193	43.963	21.306	1.00	34.11	C
ATOM	167	C	PHE	A	37	13.969	43.177	20.044	1.00	34.07	C
ATOM	168	O	PHE	A	37	13.356	42.109	20.017	1.00	33.98	O
ATOM	169	CB	PHE	A	37	15.514	43.479	21.867	1.00	34.08	C
ATOM	170	CG	PHE	A	37	15.417	42.147	22.438	1.00	34.33	C
ATOM	171	CD1	PHE	A	37	15.445	41.034	21.621	1.00	35.66	C
ATOM	172	CD2	PHE	A	37	15.208	41.990	23.777	1.00	35.42	C
ATOM	173	CE1	PHE	A	37	15.320	39.782	22.143	1.00	35.73	C
ATOM	174	CE2	PHE	A	37	15.084	40.736	24.317	1.00	36.14	C
ATOM	175	CZ	PHE	A	37	15.141	39.628	23.497	1.00	36.55	C
ATOM	176	N	PRO	A	38	14.565	43.682	18.991	1.00	33.95	N
ATOM	177	CA	PRO	A	38	14.474	43.028	17.704	1.00	33.91	C
ATOM	178	C	PRO	A	38	15.445	41.878	17.640	1.00	33.74	C
ATOM	179	O	PRO	A	38	16.366	41.803	18.441	1.00	33.82	O
ATOM	180	CB	PRO	A	38	14.887	44.133	16.751	1.00	34.03	C
ATOM	181	CG	PRO	A	38	15.874	44.935	17.548	1.00	33.99	C
ATOM	182	CD	PRO	A	38	15.385	44.903	18.945	1.00	33.80	C
ATOM	183	N	THR	A	39	15.233	40.996	16.678	1.00	34.02	N
ATOM	184	CA	THR	A	39	16.089	39.844	16.464	1.00	34.00	C
ATOM	185	C	THR	A	39	16.035	39.490	15.008	1.00	34.09	C
ATOM	186	O	THR	A	39	15.137	39.894	14.311	1.00	34.05	O
ATOM	187	CB	THR	A	39	15.563	38.637	17.201	1.00	33.94	C
ATOM	188	OG1	THR	A	39	14.250	38.336	16.714	1.00	34.18	O
ATOM	189	CG2	THR	A	39	15.338	38.915	18.642	1.00	34.09	C
ATOM	190	N	ARG	A	40	16.992	38.695	14.576	1.00	34.62	N
ATOM	191	CA	ARG	A	40	17.066	38.204	13.228	1.00	35.13	C
ATOM	192	C	ARG	A	40	17.100	36.721	13.361	1.00	35.17	C
ATOM	193	O	ARG	A	40	17.419	36.189	14.434	1.00	34.96	O

ATOM	194	CB	ARG	A	40	18.352	38.649	12.568	1.00	35.54	C
ATOM	195	CG	ARG	A	40	18.358	40.103	12.287	1.00	38.87	C
ATOM	196	CD	ARG	A	40	16.975	40.597	11.893	1.00	42.88	C
ATOM	197	NE	ARG	A	40	16.737	40.908	10.489	1.00	44.50	N
ATOM	198	CZ	ARG	A	40	15.554	41.298	10.076	1.00	46.73	C
ATOM	199	NH1	ARG	A	40	14.574	41.350	10.974	1.00	46.73	N
ATOM	200	NH2	ARG	A	40	15.334	41.636	8.802	1.00	48.87	N
ATOM	201	N	PRO	A	41	16.775	36.026	12.285	1.00	35.20	N
ATOM	202	CA	PRO	A	41	16.749	34.579	12.348	1.00	35.24	C
ATOM	203	C	PRO	A	41	18.114	33.973	12.275	1.00	35.10	C
ATOM	204	O	PRO	A	41	18.995	34.455	11.573	1.00	35.96	O
ATOM	205	CB	PRO	A	41	16.003	34.208	11.079	1.00	35.27	C
ATOM	206	CG	PRO	A	41	15.408	35.453	10.640	1.00	34.93	C
ATOM	207	CD	PRO	A	41	16.381	36.494	10.953	1.00	34.81	C
ATOM	208	N	ILE	A	42	18.277	32.910	13.022	1.00	34.55	N
ATOM	209	CA	ILE	A	42	19.435	32.099	12.909	1.00	34.29	C
ATOM	210	C	ILE	A	42	19.145	31.194	11.713	1.00	34.29	C
ATOM	211	O	ILE	A	42	18.035	30.654	11.598	1.00	34.38	O
ATOM	212	CB	ILE	A	42	19.545	31.258	14.150	1.00	34.14	C
ATOM	213	CG1	ILE	A	42	19.742	32.152	15.368	1.00	34.83	C
ATOM	214	CG2	ILE	A	42	20.679	30.297	14.016	1.00	34.41	C
ATOM	215	CD1	ILE	A	42	19.479	31.467	16.678	1.00	35.37	C
ATOM	216	N	PRO	A	43	20.127	31.010	10.836	1.00	33.80	N
ATOM	217	CA	PRO	A	43	19.982	30.122	9.686	1.00	33.62	C
ATOM	218	C	PRO	A	43	19.714	28.676	10.066	1.00	33.65	C
ATOM	219	O	PRO	A	43	20.320	28.198	11.015	1.00	33.60	O
ATOM	220	CB	PRO	A	43	21.366	30.174	9.043	1.00	33.63	C
ATOM	221	CG	PRO	A	43	21.986	31.385	9.543	1.00	33.11	C
ATOM	222	CD	PRO	A	43	21.455	31.630	10.882	1.00	33.51	C
ATOM	223	N	ARG	A	44	18.820	28.007	9.341	1.00	33.86	N
ATOM	224	CA	ARG	A	44	18.597	26.572	9.486	1.00	34.00	C
ATOM	225	C	ARG	A	44	19.176	25.968	8.247	1.00	33.87	C
ATOM	226	O	ARG	A	44	18.783	26.319	7.152	1.00	33.76	O
ATOM	227	CB	ARG	A	44	17.125	26.185	9.520	1.00	34.10	C
ATOM	228	CG	ARG	A	44	16.301	26.879	10.577	1.00	35.44	C
ATOM	229	CD	ARG	A	44	14.781	26.505	10.583	1.00	37.36	C
ATOM	230	NE	ARG	A	44	14.415	25.108	10.265	1.00	37.59	N
ATOM	231	CZ	ARG	A	44	14.237	24.144	11.187	1.00	39.71	C
ATOM	232	NH1	ARG	A	44	14.429	24.396	12.487	1.00	39.94	N
ATOM	233	NH2	ARG	A	44	13.876	22.915	10.821	1.00	40.07	N
ATOM	234	N	LEU	A	45	20.086	25.030	8.407	1.00	33.98	N
ATOM	235	CA	LEU	A	45	20.747	24.467	7.269	1.00	34.15	C
ATOM	236	C	LEU	A	45	20.950	22.995	7.389	1.00	34.37	C
ATOM	237	O	LEU	A	45	20.901	22.453	8.486	1.00	34.52	O
ATOM	238	CB	LEU	A	45	22.116	25.090	7.183	1.00	34.25	C
ATOM	239	CG	LEU	A	45	22.080	26.576	6.905	1.00	34.80	C
ATOM	240	CD1	LEU	A	45	23.454	27.095	7.177	1.00	36.05	C
ATOM	241	CD2	LEU	A	45	21.655	26.837	5.481	1.00	34.78	C
ATOM	242	N	SER	A	46	21.199	22.343	6.255	1.00	34.55	N
ATOM	243	CA	SER	A	46	21.549	20.949	6.306	1.00	34.60	C
ATOM	244	C	SER	A	46	22.985	20.838	6.681	1.00	34.89	C
ATOM	245	O	SER	A	46	23.826	21.671	6.383	1.00	34.54	O
ATOM	246	CB	SER	A	46	21.356	20.206	5.006	1.00	34.64	C
ATOM	247	OG	SER	A	46	22.231	19.090	4.989	1.00	33.61	O
ATOM	248	N	GLN	A	47	23.247	19.736	7.324	1.00	35.61	N
ATOM	249	CA	GLN	A	47	24.539	19.462	7.866	1.00	36.10	C
ATOM	250	C	GLN	A	47	25.565	19.368	6.746	1.00	35.96	C
ATOM	251	O	GLN	A	47	26.754	19.537	6.969	1.00	36.13	O
ATOM	252	CB	GLN	A	47	24.399	18.168	8.669	1.00	36.22	C
ATOM	253	CG	GLN	A	47	25.604	17.340	8.730	1.00	37.25	C
ATOM	254	CD	GLN	A	47	25.724	16.459	7.532	1.00	39.03	C

ATOM	255	OE1	GLN	A	47	24.766	16.306	6.759	1.00	38.79	O
ATOM	256	NE2	GLN	A	47	26.902	15.872	7.354	1.00	41.44	N
ATOM	257	N	SER	A	48	25.088	19.146	5.531	1.00	35.87	N
ATOM	258	CA	SER	A	48	25.958	18.938	4.391	1.00	35.90	C
ATOM	259	C	SER	A	48	26.301	20.244	3.715	1.00	36.06	C
ATOM	260	O	SER	A	48	27.215	20.334	2.897	1.00	35.95	O
ATOM	261	CB	SER	A	48	25.214	18.073	3.402	1.00	35.97	C
ATOM	262	OG	SER	A	48	23.933	18.635	3.158	1.00	36.62	O
ATOM	263	N	ASP	A	49	25.552	21.266	4.075	1.00	36.34	N
ATOM	264	CA	ASP	A	49	25.701	22.564	3.491	1.00	36.65	C
ATOM	265	C	ASP	A	49	26.963	23.236	3.952	1.00	37.06	C
ATOM	266	O	ASP	A	49	27.114	23.507	5.138	1.00	37.24	O
ATOM	267	CB	ASP	A	49	24.545	23.405	3.953	1.00	36.80	C
ATOM	268	CG	ASP	A	49	24.441	24.674	3.206	1.00	37.08	C
ATOM	269	OD1	ASP	A	49	25.490	25.217	2.810	1.00	37.38	O
ATOM	270	OD2	ASP	A	49	23.343	25.187	2.953	1.00	38.64	O
ATOM	271	N	PRO	A	50	27.857	23.565	3.029	1.00	37.42	N
ATOM	272	CA	PRO	A	50	29.113	24.196	3.430	1.00	37.32	C
ATOM	273	C	PRO	A	50	28.881	25.413	4.298	1.00	37.46	C
ATOM	274	O	PRO	A	50	29.742	25.727	5.113	1.00	37.85	O
ATOM	275	CB	PRO	A	50	29.750	24.604	2.108	1.00	37.21	C
ATOM	276	CG	PRO	A	50	29.134	23.726	1.086	1.00	37.39	C
ATOM	277	CD	PRO	A	50	27.755	23.395	1.568	1.00	37.34	C
ATOM	278	N	ARG	A	51	27.743	26.081	4.162	1.00	37.64	N
ATOM	279	CA	ARG	A	51	27.535	27.301	4.932	1.00	38.06	C
ATOM	280	C	ARG	A	51	27.470	27.000	6.421	1.00	38.26	C
ATOM	281	O	ARG	A	51	27.920	27.798	7.250	1.00	38.47	O
ATOM	282	CB	ARG	A	51	26.282	28.055	4.470	1.00	38.14	C
ATOM	283	CG	ARG	A	51	26.418	28.692	3.059	1.00	38.89	C
ATOM	284	CD	ARG	A	51	25.117	29.259	2.455	1.00	39.65	C
ATOM	285	NE	ARG	A	51	24.121	28.211	2.175	1.00	41.25	N
ATOM	286	CZ	ARG	A	51	22.798	28.404	2.078	1.00	41.86	C
ATOM	287	NH1	ARG	A	51	22.264	29.605	2.225	1.00	43.70	N
ATOM	288	NH2	ARG	A	51	21.994	27.393	1.818	1.00	41.90	N
ATOM	289	N	ALA	A	52	26.936	25.837	6.770	1.00	38.26	N
ATOM	290	CA	ALA	A	52	26.807	25.499	8.171	1.00	38.30	C
ATOM	291	C	ALA	A	52	28.206	25.374	8.683	1.00	38.45	C
ATOM	292	O	ALA	A	52	28.572	25.922	9.732	1.00	38.37	O
ATOM	293	CB	ALA	A	52	26.085	24.208	8.344	1.00	38.25	C
ATOM	294	N	GLU	A	53	29.003	24.665	7.901	1.00	38.56	N
ATOM	295	CA	GLU	A	53	30.361	24.420	8.291	1.00	38.94	C
ATOM	296	C	GLU	A	53	31.145	25.717	8.484	1.00	39.00	C
ATOM	297	O	GLU	A	53	31.970	25.793	9.386	1.00	38.49	O
ATOM	298	CB	GLU	A	53	31.060	23.507	7.314	1.00	38.91	C
ATOM	299	CG	GLU	A	53	32.139	22.738	8.035	1.00	40.55	C
ATOM	300	CD	GLU	A	53	31.662	21.403	8.579	1.00	42.38	C
ATOM	301	OE1	GLU	A	53	30.475	21.274	8.957	1.00	43.42	O
ATOM	302	OE2	GLU	A	53	32.498	20.478	8.639	1.00	44.15	O
ATOM	303	N	GLU	A	54	30.897	26.737	7.662	1.00	39.21	N
ATOM	304	CA	GLU	A	54	31.592	28.004	7.870	1.00	39.44	C
ATOM	305	C	GLU	A	54	31.092	28.625	9.144	1.00	39.05	C
ATOM	306	O	GLU	A	54	31.848	29.262	9.869	1.00	39.51	O
ATOM	307	CB	GLU	A	54	31.337	29.023	6.772	1.00	39.59	C
ATOM	308	CG	GLU	A	54	31.940	28.693	5.433	1.00	41.75	C
ATOM	309	CD	GLU	A	54	31.098	29.263	4.302	1.00	44.74	C
ATOM	310	OE1	GLU	A	54	30.546	30.379	4.509	1.00	46.67	O
ATOM	311	OE2	GLU	A	54	30.972	28.596	3.234	1.00	44.49	O
ATOM	312	N	LEU	A	55	29.812	28.468	9.424	1.00	38.37	N
ATOM	313	CA	LEU	A	55	29.291	29.137	10.583	1.00	38.08	C
ATOM	314	C	LEU	A	55	29.906	28.613	11.847	1.00	37.88	C
ATOM	315	O	LEU	A	55	30.359	29.397	12.693	1.00	37.59	O

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ATOM    316  CB  LEU A  55      27.789  29.006  10.648  1.00 38.28           C
ATOM    317  CG  LEU A  55      27.142  29.846   9.564  1.00 37.79           C
ATOM    318  CD1 LEU A  55      25.722  29.443   9.409  1.00 38.31           C
ATOM    319  CD2 LEU A  55      27.233  31.279   9.951  1.00 37.31           C
ATOM    320  N   ILE A  56      29.938  27.286  11.971  1.00 37.71           N
ATOM    321  CA  ILE A  56      30.455  26.667  13.183  1.00 37.35           C
ATOM    322  C   ILE A  56      31.912  26.988  13.321  1.00 37.30           C
ATOM    323  O   ILE A  56      32.373  27.320  14.406  1.00 36.89           O
ATOM    324  CB  ILE A  56      30.288  25.171  13.175  1.00 37.30           C
ATOM    325  CG1 ILE A  56      28.810  24.789  13.213  1.00 36.97           C
ATOM    326  CG2 ILE A  56      30.968  24.602  14.397  1.00 37.75           C
ATOM    327  CD1 ILE A  56      28.543  23.358  12.820  1.00 36.35           C
ATOM    328  N   GLU A  57      32.627  26.899  12.204  1.00 37.67           N
ATOM    329  CA  GLU A  57      34.045  27.204  12.166  1.00 38.21           C
ATOM    330  C   GLU A  57      34.277  28.569  12.784  1.00 38.33           C
ATOM    331  O   GLU A  57      35.210  28.758  13.566  1.00 38.33           O
ATOM    332  CB  GLU A  57      34.547  27.214  10.725  1.00 38.49           C
ATOM    333  CG  GLU A  57      36.038  27.461  10.559  1.00 40.09           C
ATOM    334  CD  GLU A  57      36.870  26.539  11.424  1.00 42.96           C
ATOM    335  OE1 GLU A  57      36.527  25.329  11.487  1.00 43.20           O
ATOM    336  OE2 GLU A  57      37.852  27.032  12.044  1.00 44.14           O
ATOM    337  N   ASN A  58      33.394  29.508  12.460  1.00 38.32           N
ATOM    338  CA  ASN A  58      33.546  30.890  12.891  1.00 38.38           C
ATOM    339  C   ASN A  58      32.849  31.221  14.167  1.00 38.06           C
ATOM    340  O   ASN A  58      32.683  32.387  14.507  1.00 37.86           O
ATOM    341  CB  ASN A  58      32.955  31.813  11.853  1.00 38.73           C
ATOM    342  CG  ASN A  58      33.991  32.455  11.013  1.00 39.49           C
ATOM    343  OD1 ASN A  58      34.501  31.841  10.083  1.00 42.51           O
ATOM    344  ND2 ASN A  58      34.322  33.704  11.324  1.00 40.15           N
ATOM    345  N   GLU A  59      32.399  30.196  14.856  1.00 37.88           N
ATOM    346  CA  GLU A  59      31.683  30.396  16.092  1.00 37.68           C
ATOM    347  C   GLU A  59      30.479  31.307  16.005  1.00 37.57           C
ATOM    348  O   GLU A  59      30.305  32.203  16.813  1.00 36.94           O
ATOM    349  CB  GLU A  59      32.663  30.857  17.118  1.00 37.60           C
ATOM    350  CG  GLU A  59      33.710  29.785  17.212  1.00 38.25           C
ATOM    351  CD  GLU A  59      34.545  29.886  18.435  1.00 38.10           C
ATOM    352  OE1 GLU A  59      35.654  30.430  18.303  1.00 40.30           O
ATOM    353  OE2 GLU A  59      34.089  29.420  19.498  1.00 37.62           O
ATOM    354  N   GLU A  60      29.630  31.025  15.025  1.00 37.73           N
ATOM    355  CA  GLU A  60      28.347  31.692  14.902  1.00 37.79           C
ATOM    356  C   GLU A  60      27.290  30.620  14.923  1.00 37.12           C
ATOM    357  O   GLU A  60      27.488  29.539  14.388  1.00 37.94           O
ATOM    358  CB  GLU A  60      28.252  32.456  13.606  1.00 38.14           C
ATOM    359  CG  GLU A  60      29.388  33.411  13.414  1.00 39.56           C
ATOM    360  CD  GLU A  60      28.986  34.547  12.518  1.00 42.62           C
ATOM    361  OE1 GLU A  60      29.023  34.389  11.276  1.00 42.22           O
ATOM    362  OE2 GLU A  60      28.611  35.601  13.082  1.00 46.90           O
ATOM    363  N   PRO A  61      26.158  30.917  15.517  1.00 36.25           N
ATOM    364  CA  PRO A  61      25.111  29.919  15.680  1.00 36.11           C
ATOM    365  C   PRO A  61      24.522  29.448  14.373  1.00 35.80           C
ATOM    366  O   PRO A  61      24.534  30.159  13.386  1.00 36.29           O
ATOM    367  CB  PRO A  61      24.021  30.672  16.442  1.00 36.35           C
ATOM    368  CG  PRO A  61      24.367  32.117  16.353  1.00 36.05           C
ATOM    369  CD  PRO A  61      25.790  32.228  16.061  1.00 36.10           C
ATOM    370  N   VAL A  62      23.981  28.247  14.380  1.00 35.41           N
ATOM    371  CA  VAL A  62      23.291  27.722  13.228  1.00 34.88           C
ATOM    372  C   VAL A  62      22.438  26.584  13.720  1.00 34.68           C
ATOM    373  O   VAL A  62      22.807  25.885  14.658  1.00 34.41           O
ATOM    374  CB  VAL A  62      24.237  27.189  12.156  1.00 34.79           C
ATOM    375  CG1 VAL A  62      25.108  26.062  12.695  1.00 34.66           C
ATOM    376  CG2 VAL A  62      23.440  26.693  10.996  1.00 34.83           C
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ATOM    377  N   VAL A  63      21.271  26.418  13.118  1.00 34.54           N
ATOM    378  CA  VAL A  63      20.454  25.273  13.447  1.00 34.18           C
ATOM    379  C   VAL A  63      20.660  24.230  12.372  1.00 33.85           C
ATOM    380  O   VAL A  63      20.486  24.512  11.203  1.00 33.36           O
ATOM    381  CB  VAL A  63      18.980  25.622  13.523  1.00 34.05           C
ATOM    382  CG1 VAL A  63      18.167  24.349  13.626  1.00 34.14           C
ATOM    383  CG2 VAL A  63      18.717  26.502  14.710  1.00 33.51           C
ATOM    384  N   LEU A  64      21.048  23.028  12.769  1.00 33.87           N
ATOM    385  CA  LEU A  64      21.204  21.942  11.814  1.00 34.03           C
ATOM    386  C   LEU A  64      19.894  21.193  11.856  1.00 33.70           C
ATOM    387  O   LEU A  64      19.368  20.956  12.932  1.00 34.18           O
ATOM    388  CB  LEU A  64      22.417  21.071  12.164  1.00 33.90           C
ATOM    389  CG  LEU A  64      23.667  21.978  12.155  1.00 34.85           C
ATOM    390  CD1 LEU A  64      24.975  21.303  12.485  1.00 35.82           C
ATOM    391  CD2 LEU A  64      23.821  22.629  10.798  1.00 35.39           C
ATOM    392  N   THR A  65      19.314  20.887  10.704  1.00 33.36           N
ATOM    393  CA  THR A  65      18.035  20.177  10.704  1.00 33.24           C
ATOM    394  C   THR A  65      18.105  18.683  10.517  1.00 32.87           C
ATOM    395  O   THR A  65      17.096  18.016  10.715  1.00 32.11           O
ATOM    396  CB  THR A  65      17.149  20.657   9.562  1.00 33.35           C
ATOM    397  OG1 THR A  65      17.858  20.540   8.320  1.00 33.15           O
ATOM    398  CG2 THR A  65      16.843  22.093   9.693  1.00 33.51           C
ATOM    399  N   ASP A  66      19.265  18.173  10.106  1.00 33.09           N
ATOM    400  CA  ASP A  66      19.392  16.767   9.724  1.00 33.53           C
ATOM    401  C   ASP A  66      20.629  16.019  10.189  1.00 33.55           C
ATOM    402  O   ASP A  66      21.136  15.179   9.458  1.00 33.68           O
ATOM    403  CB  ASP A  66      19.339  16.653   8.192  1.00 33.55           C
ATOM    404  CG  ASP A  66      20.397  17.484   7.508  1.00 34.00           C
ATOM    405  OD1 ASP A  66      21.124  18.232   8.188  1.00 35.03           O
ATOM    406  OD2 ASP A  66      20.583  17.456   6.284  1.00 35.31           O
ATOM    407  N   THR A  67      21.107  16.264  11.397  1.00 33.83           N
ATOM    408  CA  THR A  67      22.286  15.540  11.845  1.00 33.70           C
ATOM    409  C   THR A  67      21.937  14.177  12.340  1.00 33.84           C
ATOM    410  O   THR A  67      22.808  13.340  12.431  1.00 34.42           O
ATOM    411  CB  THR A  67      22.951  16.215  13.020  1.00 33.66           C
ATOM    412  OG1 THR A  67      21.981  16.451  14.046  1.00 33.90           O
ATOM    413  CG2 THR A  67      23.472  17.562  12.674  1.00 33.56           C
ATOM    414  N   ASN A  68      20.686  13.954  12.719  1.00 34.00           N
ATOM    415  CA  ASN A  68      20.320  12.676  13.312  1.00 34.15           C
ATOM    416  C   ASN A  68      21.108  12.454  14.575  1.00 33.97           C
ATOM    417  O   ASN A  68      21.281  11.330  15.008  1.00 33.83           O
ATOM    418  CB  ASN A  68      20.653  11.531  12.375  1.00 34.26           C
ATOM    419  CG  ASN A  68      19.685  11.411  11.239  1.00 35.12           C
ATOM    420  OD1 ASN A  68      18.512  11.104  11.434  1.00 35.89           O
ATOM    421  ND2 ASN A  68      20.168  11.649  10.033  1.00 36.88           N
ATOM    422  N   LEU A  69      21.598  13.531  15.162  1.00 34.12           N
ATOM    423  CA  LEU A  69      22.446  13.419  16.334  1.00 34.19           C
ATOM    424  C   LEU A  69      21.836  12.562  17.440  1.00 34.16           C
ATOM    425  O   LEU A  69      22.538  11.737  18.039  1.00 33.75           O
ATOM    426  CB  LEU A  69      22.774  14.808  16.881  1.00 34.13           C
ATOM    427  CG  LEU A  69      23.652  14.795  18.125  1.00 34.10           C
ATOM    428  CD1 LEU A  69      24.978  14.105  17.854  1.00 34.66           C
ATOM    429  CD2 LEU A  69      23.883  16.183  18.582  1.00 33.94           C
ATOM    430  N   VAL A  70      20.555  12.783  17.732  1.00 34.15           N
ATOM    431  CA  VAL A  70      19.877  12.023  18.777  1.00 34.48           C
ATOM    432  C   VAL A  70      18.654  11.307  18.228  1.00 34.64           C
ATOM    433  O   VAL A  70      17.600  11.223  18.865  1.00 34.46           O
ATOM    434  CB  VAL A  70      19.540  12.899  20.003  1.00 34.61           C
ATOM    435  CG1 VAL A  70      20.808  13.555  20.519  1.00 35.04           C
ATOM    436  CG2 VAL A  70      18.493  13.939  19.706  1.00 34.21           C
ATOM    437  N   TYR A  71      18.833  10.762  17.033  1.00 34.98           N
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ATOM    438  CA  TYR A  71      17.779  10.041  16.352  1.00 35.19           C
ATOM    439  C   TYR A  71      17.051   9.086  17.305  1.00 35.24           C
ATOM    440  O   TYR A  71      15.837   9.148  17.421  1.00 35.61           O
ATOM    441  CB  TYR A  71      18.337   9.291  15.137  1.00 35.26           C
ATOM    442  CG  TYR A  71      17.352   8.278  14.618  1.00 35.95           C
ATOM    443  CD1 TYR A  71      16.155   8.696  14.055  1.00 35.96           C
ATOM    444  CD2 TYR A  71      17.584   6.915  14.731  1.00 34.66           C
ATOM    445  CE1 TYR A  71      15.239   7.805  13.610  1.00 35.86           C
ATOM    446  CE2 TYR A  71      16.664   6.011  14.281  1.00 34.47           C
ATOM    447  CZ  TYR A  71      15.485   6.463  13.724  1.00 36.06           C
ATOM    448  OH  TYR A  71      14.518   5.589  13.248  1.00 38.92           O
ATOM    449  N   PRO A  72      17.774   8.211  17.993  1.00 35.15           N
ATOM    450  CA  PRO A  72      17.141   7.271  18.924  1.00 35.16           C
ATOM    451  C   PRO A  72      16.357   7.923  20.068  1.00 35.14           C
ATOM    452  O   PRO A  72      15.473   7.294  20.643  1.00 34.97           O
ATOM    453  CB  PRO A  72      18.327   6.475  19.487  1.00 35.18           C
ATOM    454  CG  PRO A  72      19.433   6.677  18.524  1.00 35.26           C
ATOM    455  CD  PRO A  72      19.233   8.031  17.938  1.00 35.29           C
ATOM    456  N   ALA A  73      16.657   9.169  20.401  1.00 35.18           N
ATOM    457  CA  ALA A  73      15.967   9.803  21.512  1.00 35.21           C
ATOM    458  C   ALA A  73      14.657  10.414  21.097  1.00 35.08           C
ATOM    459  O   ALA A  73      13.890  10.862  21.934  1.00 34.86           O
ATOM    460  CB  ALA A  73      16.829  10.864  22.135  1.00 35.37           C
ATOM    461  N   LEU A  74      14.370  10.434  19.812  1.00 35.25           N
ATOM    462  CA  LEU A  74      13.142  11.090  19.399  1.00 35.54           C
ATOM    463  C   LEU A  74      11.903  10.434  19.958  1.00 35.66           C
ATOM    464  O   LEU A  74      10.893  11.088  20.118  1.00 35.64           O
ATOM    465  CB  LEU A  74      13.044  11.190  17.894  1.00 35.31           C
ATOM    466  CG  LEU A  74      14.161  12.046  17.333  1.00 36.48           C
ATOM    467  CD1 LEU A  74      13.887  12.277  15.890  1.00 37.76           C
ATOM    468  CD2 LEU A  74      14.300  13.394  18.076  1.00 37.06           C
ATOM    469  N   LYS A  75      11.979   9.151  20.282  1.00 36.19           N
ATOM    470  CA  LYS A  75      10.795   8.453  20.767  1.00 36.36           C
ATOM    471  C   LYS A  75      10.566   8.710  22.246  1.00 36.85           C
ATOM    472  O   LYS A  75       9.491   8.437  22.765  1.00 37.12           O
ATOM    473  CB  LYS A  75      10.904   6.956  20.505  1.00 36.04           C
ATOM    474  CG  LYS A  75      12.060   6.284  21.216  1.00 35.77           C
ATOM    475  CD  LYS A  75      12.245   4.829  20.782  1.00 34.46           C
ATOM    476  CE  LYS A  75      13.720   4.460  20.710  1.00 33.42           C
ATOM    477  NZ  LYS A  75      14.375   4.536  22.036  1.00 32.34           N
ATOM    478  N   TRP A  76      11.578   9.244  22.920  1.00 37.24           N
ATOM    479  CA  TRP A  76      11.481   9.510  24.345  1.00 37.30           C
ATOM    480  C   TRP A  76      10.274  10.369  24.700  1.00 37.42           C
ATOM    481  O   TRP A  76       9.917  11.306  23.984  1.00 37.54           O
ATOM    482  CB  TRP A  76      12.728  10.247  24.838  1.00 37.12           C
ATOM    483  CG  TRP A  76      13.980   9.446  24.816  1.00 36.77           C
ATOM    484  CD1 TRP A  76      14.142   8.176  24.359  1.00 37.03           C
ATOM    485  CD2 TRP A  76      15.255   9.864  25.291  1.00 36.31           C
ATOM    486  NE1 TRP A  76      15.445   7.776  24.527  1.00 36.52           N
ATOM    487  CE2 TRP A  76      16.147   8.801  25.097  1.00 36.08           C
ATOM    488  CE3 TRP A  76      15.737  11.040  25.864  1.00 36.23           C
ATOM    489  CZ2 TRP A  76      17.480   8.881  25.443  1.00 36.27           C
ATOM    490  CZ3 TRP A  76      17.055  11.113  26.209  1.00 36.35           C
ATOM    491  CH2 TRP A  76      17.915  10.045  25.996  1.00 36.41           C
ATOM    492  N   ASP A  77       9.662  10.015  25.820  1.00 37.42           N
ATOM    493  CA  ASP A  77       8.591  10.768  26.435  1.00 37.36           C
ATOM    494  C   ASP A  77       8.707  10.370  27.907  1.00 37.09           C
ATOM    495  O   ASP A  77       9.628   9.647  28.260  1.00 37.04           O
ATOM    496  CB  ASP A  77       7.245  10.377  25.834  1.00 37.48           C
ATOM    497  CG  ASP A  77       6.990   8.888  25.903  1.00 38.01           C
ATOM    498  OD1 ASP A  77       7.704   8.191  26.658  1.00 38.42           O
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ATOM    499  OD2 ASP A  77       6.093   8.319  25.244  1.00 39.67           O
ATOM    500  N   LEU A  78       7.789  10.798  28.763  1.00 36.79           N
ATOM    501  CA  LEU A  78       7.913  10.496  30.182  1.00 36.49           C
ATOM    502  C   LEU A  78       7.729   9.026  30.464  1.00 36.62           C
ATOM    503  O   LEU A  78       8.456   8.426  31.260  1.00 36.50           O
ATOM    504  CB  LEU A  78       6.903  11.296  30.974  1.00 36.33           C
ATOM    505  CG  LEU A  78       7.119  12.796  30.863  1.00 36.49           C
ATOM    506  CD1 LEU A  78       6.008  13.510  31.594  1.00 36.63           C
ATOM    507  CD2 LEU A  78       8.494  13.194  31.399  1.00 36.10           C
ATOM    508  N   GLU A  79       6.748   8.433  29.815  1.00 36.81           N
ATOM    509  CA  GLU A  79       6.505   7.030  30.041  1.00 36.97           C
ATOM    510  C   GLU A  79       7.737   6.176  29.738  1.00 36.75           C
ATOM    511  O   GLU A  79       8.151   5.373  30.572  1.00 36.84           O
ATOM    512  CB  GLU A  79       5.323   6.560  29.214  1.00 37.25           C
ATOM    513  CG  GLU A  79       4.937   5.137  29.540  1.00 37.93           C
ATOM    514  CD  GLU A  79       3.729   4.681  28.768  1.00 38.61           C
ATOM    515  OE1 GLU A  79       3.381   5.352  27.775  1.00 38.32           O
ATOM    516  OE2 GLU A  79       3.131   3.654  29.166  1.00 40.10           O
ATOM    517  N   TYR A  80       8.318   6.337  28.553  1.00 36.50           N
ATOM    518  CA  TYR A  80       9.489   5.549  28.176  1.00 36.32           C
ATOM    519  C   TYR A  80      10.644   5.804  29.123  1.00 36.27           C
ATOM    520  O   TYR A  80      11.343   4.872  29.516  1.00 36.15           O
ATOM    521  CB  TYR A  80       9.921   5.889  26.751  1.00 36.39           C
ATOM    522  CG  TYR A  80      11.180   5.202  26.228  1.00 36.06           C
ATOM    523  CD1 TYR A  80      11.100   4.000  25.557  1.00 36.22           C
ATOM    524  CD2 TYR A  80      12.432   5.793  26.349  1.00 35.91           C
ATOM    525  CE1 TYR A  80      12.225   3.380  25.051  1.00 36.52           C
ATOM    526  CE2 TYR A  80      13.568   5.179  25.844  1.00 36.04           C
ATOM    527  CZ  TYR A  80      13.454   3.967  25.190  1.00 36.46           C
ATOM    528  OH  TYR A  80      14.561   3.321  24.673  1.00 35.81           O
ATOM    529  N   LEU A  81      10.846   7.064  29.493  1.00 36.13           N
ATOM    530  CA  LEU A  81      11.971   7.408  30.353  1.00 36.22           C
ATOM    531  C   LEU A  81      11.777   6.827  31.747  1.00 36.13           C
ATOM    532  O   LEU A  81      12.706   6.259  32.325  1.00 35.90           O
ATOM    533  CB  LEU A  81      12.208   8.930  30.406  1.00 36.22           C
ATOM    534  CG  LEU A  81      12.774   9.568  29.121  1.00 36.35           C
ATOM    535  CD1 LEU A  81      12.880  11.055  29.274  1.00 36.49           C
ATOM    536  CD2 LEU A  81      14.132   9.017  28.718  1.00 36.18           C
ATOM    537  N   GLN A  82      10.569   6.956  32.280  1.00 36.15           N
ATOM    538  CA  GLN A  82      10.284   6.424  33.597  1.00 36.29           C
ATOM    539  C   GLN A  82      10.575   4.927  33.605  1.00 36.25           C
ATOM    540  O   GLN A  82      11.210   4.408  34.515  1.00 35.96           O
ATOM    541  CB  GLN A  82       8.838   6.710  33.976  1.00 36.38           C
ATOM    542  CG  GLN A  82       8.418   6.080  35.279  1.00 37.00           C
ATOM    543  CD  GLN A  82       7.191   6.740  35.872  1.00 37.85           C
ATOM    544  OE1 GLN A  82       6.640   7.676  35.295  1.00 38.24           O
ATOM    545  NE2 GLN A  82       6.754   6.247  37.020  1.00 38.93           N
ATOM    546  N   GLU A  83      10.136   4.240  32.560  1.00 36.46           N
ATOM    547  CA  GLU A  83      10.366   2.807  32.451  1.00 36.59           C
ATOM    548  C   GLU A  83      11.843   2.424  32.307  1.00 36.50           C
ATOM    549  O   GLU A  83      12.228   1.321  32.677  1.00 36.55           O
ATOM    550  CB  GLU A  83       9.568   2.237  31.271  1.00 36.57           C
ATOM    551  CG  GLU A  83       9.497   0.714  31.239  1.00 36.95           C
ATOM    552  CD  GLU A  83       8.732   0.107  32.416  1.00 37.61           C
ATOM    553  OE1 GLU A  83       7.922   0.815  33.050  1.00 37.88           O
ATOM    554  OE2 GLU A  83       8.938  -1.090  32.719  1.00 37.54           O
ATOM    555  N   ASN A  84      12.680   3.324  31.805  1.00 36.58           N
ATOM    556  CA  ASN A  84      14.049   2.936  31.476  1.00 36.62           C
ATOM    557  C   ASN A  84      15.210   3.749  32.001  1.00 36.66           C
ATOM    558  O   ASN A  84      16.349   3.310  31.900  1.00 36.62           O
ATOM    559  CB  ASN A  84      14.211   2.936  29.960  1.00 36.62           C
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ATOM	560	CG	ASN	A	84	13.362	1.902	29.286	1.00	36.37	C
ATOM	561	OD1	ASN	A	84	13.352	0.733	29.683	1.00	36.46	O
ATOM	562	ND2	ASN	A	84	12.644	2.317	28.247	1.00	35.65	N
ATOM	563	N	ILE	A	85	14.975	4.920	32.557	1.00	36.80	N
ATOM	564	CA	ILE	A	85	16.125	5.730	32.885	1.00	37.13	C
ATOM	565	C	ILE	A	85	16.834	5.365	34.180	1.00	37.28	C
ATOM	566	O	ILE	A	85	17.793	6.022	34.568	1.00	37.74	O
ATOM	567	CB	ILE	A	85	15.752	7.184	32.874	1.00	37.21	C
ATOM	568	CG1	ILE	A	85	16.958	8.009	32.445	1.00	37.55	C
ATOM	569	CG2	ILE	A	85	15.241	7.593	34.222	1.00	37.38	C
ATOM	570	CD1	ILE	A	85	16.623	9.467	32.195	1.00	37.68	C
ATOM	571	N	GLY	A	86	16.383	4.326	34.855	1.00	37.29	N
ATOM	572	CA	GLY	A	86	17.089	3.892	36.038	1.00	37.39	C
ATOM	573	C	GLY	A	86	16.553	4.496	37.308	1.00	37.43	C
ATOM	574	O	GLY	A	86	15.583	5.265	37.290	1.00	37.34	O
ATOM	575	N	ASN	A	87	17.212	4.167	38.414	1.00	37.34	N
ATOM	576	CA	ASN	A	87	16.750	4.602	39.716	1.00	37.42	C
ATOM	577	C	ASN	A	87	17.701	5.603	40.357	1.00	37.39	C
ATOM	578	O	ASN	A	87	17.740	5.742	41.578	1.00	37.39	O
ATOM	579	CB	ASN	A	87	16.545	3.399	40.612	1.00	37.40	C
ATOM	580	N	GLY	A	88	18.451	6.321	39.529	1.00	37.47	N
ATOM	581	CA	GLY	A	88	19.405	7.296	40.028	1.00	37.41	C
ATOM	582	C	GLY	A	88	18.686	8.554	40.450	1.00	37.30	C
ATOM	583	O	GLY	A	88	17.500	8.709	40.171	1.00	37.36	O
ATOM	584	N	ASP	A	89	19.390	9.453	41.125	1.00	37.26	N
ATOM	585	CA	ASP	A	89	18.780	10.716	41.531	1.00	37.21	C
ATOM	586	C	ASP	A	89	18.726	11.681	40.355	1.00	36.91	C
ATOM	587	O	ASP	A	89	19.607	11.654	39.500	1.00	36.62	O
ATOM	588	CB	ASP	A	89	19.563	11.346	42.680	1.00	37.24	C
ATOM	589	CG	ASP	A	89	19.277	10.690	44.000	1.00	37.24	C
ATOM	590	OD1	ASP	A	89	18.398	9.802	44.044	1.00	37.14	O
ATOM	591	OD2	ASP	A	89	19.876	11.002	45.047	1.00	37.98	O
ATOM	592	N	PHE	A	90	17.667	12.492	40.295	1.00	36.88	N
ATOM	593	CA	PHE	A	90	17.554	13.570	39.298	1.00	36.87	C
ATOM	594	C	PHE	A	90	17.327	14.926	39.942	1.00	36.79	C
ATOM	595	O	PHE	A	90	16.455	15.080	40.795	1.00	36.69	O
ATOM	596	CB	PHE	A	90	16.420	13.308	38.321	1.00	36.70	C
ATOM	597	CG	PHE	A	90	16.712	12.210	37.371	1.00	36.83	C
ATOM	598	CD1	PHE	A	90	16.551	10.901	37.757	1.00	36.07	C
ATOM	599	CD2	PHE	A	90	17.191	12.479	36.102	1.00	37.27	C
ATOM	600	CE1	PHE	A	90	16.827	9.885	36.899	1.00	35.81	C
ATOM	601	CE2	PHE	A	90	17.475	11.449	35.238	1.00	36.82	C
ATOM	602	CZ	PHE	A	90	17.291	10.150	35.642	1.00	36.06	C
ATOM	603	N	SER	A	91	18.123	15.905	39.529	1.00	36.92	N
ATOM	604	CA	SER	A	91	17.971	17.266	40.027	1.00	36.99	C
ATOM	605	C	SER	A	91	16.738	17.923	39.428	1.00	37.10	C
ATOM	606	O	SER	A	91	16.586	17.985	38.206	1.00	36.78	O
ATOM	607	CB	SER	A	91	19.200	18.105	39.699	1.00	36.86	C
ATOM	608	OG	SER	A	91	20.350	17.616	40.358	1.00	36.54	O
ATOM	609	N	VAL	A	92	15.857	18.402	40.303	1.00	37.42	N
ATOM	610	CA	VAL	A	92	14.660	19.106	39.876	1.00	37.75	C
ATOM	611	C	VAL	A	92	14.509	20.468	40.545	1.00	38.10	C
ATOM	612	O	VAL	A	92	14.472	20.589	41.768	1.00	38.08	O
ATOM	613	CB	VAL	A	92	13.406	18.303	40.159	1.00	37.63	C
ATOM	614	CG1	VAL	A	92	12.197	19.034	39.621	1.00	37.42	C
ATOM	615	CG2	VAL	A	92	13.515	16.946	39.527	1.00	37.78	C
ATOM	616	N	TYR	A	93	14.384	21.487	39.709	1.00	38.59	N
ATOM	617	CA	TYR	A	93	14.220	22.849	40.166	1.00	38.91	C
ATOM	618	C	TYR	A	93	12.784	23.173	40.219	1.00	39.41	C
ATOM	619	O	TYR	A	93	12.019	22.786	39.343	1.00	39.64	O
ATOM	620	CB	TYR	A	93	14.883	23.799	39.202	1.00	38.84	C

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ATOM    621  CG  TYR A  93      16.332  23.588  39.288  1.00 38.25           C
ATOM    622  CD1 TYR A  93      17.044  24.122  40.334  1.00 38.21           C
ATOM    623  CD2 TYR A  93      16.968  22.750  38.415  1.00 37.50           C
ATOM    624  CE1 TYR A  93      18.362  23.893  40.464  1.00 37.90           C
ATOM    625  CE2 TYR A  93      18.287  22.512  38.534  1.00 37.82           C
ATOM    626  CZ  TYR A  93      18.987  23.090  39.557  1.00 37.78           C
ATOM    627  OH  TYR A  93      20.322  22.836  39.677  1.00 39.39           O
ATOM    628  N   SER A  94      12.422  23.935  41.228  1.00 40.00           N
ATOM    629  CA  SER A  94      11.043  24.274  41.416  1.00 40.51           C
ATOM    630  C   SER A  94      11.020  25.773  41.426  1.00 40.68           C
ATOM    631  O   SER A  94      11.962  26.384  41.896  1.00 41.00           O
ATOM    632  CB  SER A  94      10.539  23.693  42.730  1.00 40.58           C
ATOM    633  OG  SER A  94       9.139  23.874  42.858  1.00 41.30           O
ATOM    634  N   ALA A  95       9.974  26.374  40.878  1.00 40.87           N
ATOM    635  CA  ALA A  95       9.899  27.824  40.856  1.00 40.91           C
ATOM    636  C   ALA A  95       8.483  28.343  40.826  1.00 41.03           C
ATOM    637  O   ALA A  95       7.573  27.699  40.309  1.00 41.09           O
ATOM    638  CB  ALA A  95      10.630  28.350  39.668  1.00 40.93           C
ATOM    639  N   SER A  96       8.328  29.549  41.350  1.00 41.12           N
ATOM    640  CA  SER A  96       7.034  30.200  41.413  1.00 41.05           C
ATOM    641  C   SER A  96       6.834  31.208  40.305  1.00 40.72           C
ATOM    642  O   SER A  96       5.833  31.912  40.277  1.00 40.86           O
ATOM    643  CB  SER A  96       6.902  30.938  42.731  1.00 41.16           C
ATOM    644  OG  SER A  96       5.767  31.779  42.693  1.00 41.90           O
ATOM    645  N   THR A  97       7.808  31.314  39.423  1.00 40.34           N
ATOM    646  CA  THR A  97       7.710  32.209  38.292  1.00 40.18           C
ATOM    647  C   THR A  97       8.073  31.368  37.113  1.00 39.72           C
ATOM    648  O   THR A  97       8.582  30.274  37.279  1.00 39.83           O
ATOM    649  CB  THR A  97       8.732  33.336  38.393  1.00 40.49           C
ATOM    650  OG1 THR A  97       8.905  33.946  37.105  1.00 41.00           O
ATOM    651  CG2 THR A  97      10.145  32.779  38.718  1.00 40.86           C
ATOM    652  N   HIS A  98       7.862  31.874  35.915  1.00 39.32           N
ATOM    653  CA  HIS A  98       8.257  31.112  34.754  1.00 39.12           C
ATOM    654  C   HIS A  98       9.765  31.163  34.543  1.00 39.41           C
ATOM    655  O   HIS A  98      10.299  30.423  33.711  1.00 39.15           O
ATOM    656  CB  HIS A  98       7.576  31.646  33.516  1.00 38.95           C
ATOM    657  CG  HIS A  98       7.807  33.104  33.290  1.00 38.64           C
ATOM    658  ND1 HIS A  98       7.095  34.081  33.950  1.00 37.36           N
ATOM    659  CD2 HIS A  98       8.672  33.753  32.477  1.00 38.57           C
ATOM    660  CE1 HIS A  98       7.509  35.268  33.550  1.00 37.33           C
ATOM    661  NE2 HIS A  98       8.463  35.098  32.654  1.00 37.37           N
ATOM    662  N   LYS A  99      10.452  32.021  35.294  1.00 39.52           N
ATOM    663  CA  LYS A  99      11.881  32.184  35.105  1.00 39.98           C
ATOM    664  C   LYS A  99      12.749  31.364  36.029  1.00 40.38           C
ATOM    665  O   LYS A  99      12.744  31.554  37.246  1.00 40.33           O
ATOM    666  CB  LYS A  99      12.281  33.631  35.297  1.00 40.10           C
ATOM    667  CG  LYS A  99      11.814  34.527  34.219  1.00 40.15           C
ATOM    668  CD  LYS A  99      12.537  35.820  34.337  1.00 40.36           C
ATOM    669  CE  LYS A  99      11.725  36.835  35.072  1.00 41.10           C
ATOM    670  NZ  LYS A  99      10.975  37.655  34.074  1.00 41.52           N
ATOM    671  N   PHE A 100      13.541  30.486  35.433  1.00 40.77           N
ATOM    672  CA  PHE A 100      14.450  29.665  36.201  1.00 41.12           C
ATOM    673  C   PHE A 100      15.893  30.159  36.218  1.00 41.78           C
ATOM    674  O   PHE A 100      16.808  29.463  35.765  1.00 42.13           O
ATOM    675  CB  PHE A 100      14.418  28.255  35.658  1.00 40.86           C
ATOM    676  CG  PHE A 100      13.211  27.494  36.060  1.00 40.53           C
ATOM    677  CD1 PHE A 100      12.040  27.604  35.344  1.00 39.76           C
ATOM    678  CD2 PHE A 100      13.249  26.666  37.159  1.00 39.54           C
ATOM    679  CE1 PHE A 100      10.942  26.890  35.707  1.00 39.56           C
ATOM    680  CE2 PHE A 100      12.155  25.955  37.526  1.00 39.79           C
ATOM    681  CZ  PHE A 100      10.995  26.064  36.802  1.00 39.91           C
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ATOM	682	N	LEU A 101	16.124	31.347	36.747	1.00	42.23	N
ATOM	683	CA	LEU A 101	17.501	31.800	36.868	1.00	42.74	C
ATOM	684	C	LEU A 101	18.429	30.780	37.567	1.00	43.27	C
ATOM	685	O	LEU A 101	18.213	30.392	38.736	1.00	43.22	O
ATOM	686	CB	LEU A 101	17.549	33.097	37.657	1.00	42.90	C
ATOM	687	CG	LEU A 101	18.900	33.800	37.793	1.00	43.35	C
ATOM	688	CD1	LEU A 101	19.441	34.288	36.455	1.00	43.59	C
ATOM	689	CD2	LEU A 101	18.703	34.967	38.724	1.00	43.91	C
ATOM	690	N	TYR A 102	19.470	30.379	36.836	1.00	43.59	N
ATOM	691	CA	TYR A 102	20.547	29.522	37.340	1.00	43.71	C
ATOM	692	C	TYR A 102	21.380	30.186	38.460	1.00	43.57	C
ATOM	693	O	TYR A 102	21.746	31.364	38.343	1.00	44.09	O
ATOM	694	CB	TYR A 102	21.531	29.218	36.193	1.00	43.90	C
ATOM	695	CG	TYR A 102	22.703	28.421	36.700	1.00	44.68	C
ATOM	696	CD1	TYR A 102	22.553	27.080	37.033	1.00	44.29	C
ATOM	697	CD2	TYR A 102	23.935	29.023	36.918	1.00	44.88	C
ATOM	698	CE1	TYR A 102	23.602	26.358	37.541	1.00	44.98	C
ATOM	699	CE2	TYR A 102	24.987	28.309	37.422	1.00	45.44	C
ATOM	700	CZ	TYR A 102	24.826	26.984	37.735	1.00	45.86	C
ATOM	701	OH	TYR A 102	25.922	26.313	38.237	1.00	47.07	O
ATOM	702	N	TYR A 103	21.704	29.451	39.523	1.00	42.91	N
ATOM	703	CA	TYR A 103	22.642	29.970	40.527	1.00	42.67	C
ATOM	704	C	TYR A 103	23.561	28.895	41.102	1.00	41.98	C
ATOM	705	O	TYR A 103	23.165	27.768	41.351	1.00	41.99	O
ATOM	706	CB	TYR A 103	21.922	30.638	41.670	1.00	42.83	C
ATOM	707	CG	TYR A 103	20.974	29.692	42.265	1.00	44.33	C
ATOM	708	CD1	TYR A 103	19.770	29.454	41.646	1.00	46.69	C
ATOM	709	CD2	TYR A 103	21.306	28.959	43.390	1.00	45.99	C
ATOM	710	CE1	TYR A 103	18.880	28.539	42.147	1.00	47.83	C
ATOM	711	CE2	TYR A 103	20.426	28.045	43.917	1.00	47.23	C
ATOM	712	CZ	TYR A 103	19.203	27.836	43.284	1.00	48.65	C
ATOM	713	OH	TYR A 103	18.287	26.921	43.774	1.00	51.36	O
ATOM	714	N	ASP A 104	24.786	29.300	41.369	1.00	41.25	N
ATOM	715	CA	ASP A 104	25.829	28.399	41.764	1.00	40.65	C
ATOM	716	C	ASP A 104	25.924	28.335	43.267	1.00	40.45	C
ATOM	717	O	ASP A 104	26.430	29.240	43.924	1.00	40.13	O
ATOM	718	CB	ASP A 104	27.110	28.904	41.142	1.00	40.60	C
ATOM	719	CG	ASP A 104	28.306	28.117	41.548	1.00	41.02	C
ATOM	720	OD1	ASP A 104	28.270	27.482	42.629	1.00	42.21	O
ATOM	721	OD2	ASP A 104	29.337	28.095	40.838	1.00	40.68	O
ATOM	722	N	GLU A 105	25.446	27.222	43.801	1.00	40.41	N
ATOM	723	CA	GLU A 105	25.368	27.029	45.231	1.00	40.21	C
ATOM	724	C	GLU A 105	26.734	27.234	45.895	1.00	39.89	C
ATOM	725	O	GLU A 105	26.803	27.738	47.021	1.00	39.65	O
ATOM	726	CB	GLU A 105	24.769	25.643	45.528	1.00	40.44	C
ATOM	727	CG	GLU A 105	23.247	25.572	45.351	1.00	41.43	C
ATOM	728	CD	GLU A 105	22.708	24.150	45.207	1.00	42.48	C
ATOM	729	OE1	GLU A 105	23.138	23.269	45.986	1.00	43.10	O
ATOM	730	OE2	GLU A 105	21.842	23.914	44.322	1.00	42.00	O
ATOM	731	N	LYS A 106	27.824	26.899	45.204	1.00	39.58	N
ATOM	732	CA	LYS A 106	29.141	27.042	45.831	1.00	39.58	C
ATOM	733	C	LYS A 106	29.427	28.469	46.190	1.00	39.64	C
ATOM	734	O	LYS A 106	30.165	28.730	47.128	1.00	39.93	O
ATOM	735	CB	LYS A 106	30.302	26.592	44.945	1.00	39.49	C
ATOM	736	CG	LYS A 106	30.444	25.096	44.731	1.00	39.29	C
ATOM	737	N	LYS A 107	28.856	29.397	45.438	1.00	39.68	N
ATOM	738	CA	LYS A 107	29.140	30.794	45.663	1.00	39.58	C
ATOM	739	C	LYS A 107	28.151	31.452	46.607	1.00	40.18	C
ATOM	740	O	LYS A 107	28.279	32.637	46.883	1.00	40.30	O
ATOM	741	CB	LYS A 107	29.161	31.531	44.325	1.00	39.46	C
ATOM	742	CG	LYS A 107	30.390	31.199	43.455	1.00	38.46	C

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ATOM    743  CD  LYS A 107      30.299  31.737  42.029  1.00 36.98           C
ATOM    744  CE  LYS A 107      31.643  31.632  41.292  1.00 36.36           C
ATOM    745  NZ  LYS A 107      31.553  31.935  39.819  1.00 35.12           N
ATOM    746  N   MET A 108      27.197  30.697  47.148  1.00 40.92           N
ATOM    747  CA  MET A 108      26.165  31.316  47.978  1.00 41.42           C
ATOM    748  C   MET A 108      26.675  31.937  49.258  1.00 42.03           C
ATOM    749  O   MET A 108      26.142  32.952  49.704  1.00 42.33           O
ATOM    750  CB  MET A 108      25.006  30.366  48.210  1.00 41.31           C
ATOM    751  CG  MET A 108      24.285  30.179  46.892  1.00 41.95           C
ATOM    752  SD  MET A 108      22.861  29.100  46.846  1.00 43.29           S
ATOM    753  CE  MET A 108      21.737  30.010  48.064  1.00 43.04           C
ATOM    754  N   ALA A 109      27.737  31.382  49.816  1.00 42.84           N
ATOM    755  CA  ALA A 109      28.282  31.912  51.064  1.00 43.65           C
ATOM    756  C   ALA A 109      28.655  33.387  50.963  1.00 44.40           C
ATOM    757  O   ALA A 109      28.321  34.195  51.823  1.00 44.44           O
ATOM    758  CB  ALA A 109      29.486  31.107  51.476  1.00 43.66           C
ATOM    759  N   ASN A 110      29.332  33.729  49.882  1.00 45.46           N
ATOM    760  CA  ASN A 110      29.817  35.084  49.665  1.00 46.25           C
ATOM    761  C   ASN A 110      28.789  36.154  49.317  1.00 46.26           C
ATOM    762  O   ASN A 110      29.163  37.304  49.066  1.00 46.51           O
ATOM    763  CB  ASN A 110      30.841  35.036  48.543  1.00 46.62           C
ATOM    764  CG  ASN A 110      32.024  34.145  48.886  1.00 47.94           C
ATOM    765  OD1 ASN A 110      32.474  34.093  50.045  1.00 48.12           O
ATOM    766  ND2 ASN A 110      32.530  33.432  47.883  1.00 48.75           N
ATOM    767  N   PHE A 111      27.517  35.786  49.228  1.00 46.12           N
ATOM    768  CA  PHE A 111      26.470  36.795  49.057  1.00 45.97           C
ATOM    769  C   PHE A 111      25.267  36.385  49.889  1.00 46.17           C
ATOM    770  O   PHE A 111      24.217  36.002  49.361  1.00 46.25           O
ATOM    771  CB  PHE A 111      26.072  36.978  47.599  1.00 45.55           C
ATOM    772  CG  PHE A 111      27.076  37.718  46.777  1.00 44.32           C
ATOM    773  CD1 PHE A 111      28.269  37.123  46.419  1.00 43.65           C
ATOM    774  CD2 PHE A 111      26.808  39.000  46.320  1.00 44.04           C
ATOM    775  CE1 PHE A 111      29.187  37.794  45.620  1.00 43.19           C
ATOM    776  CE2 PHE A 111      27.715  39.673  45.522  1.00 43.22           C
ATOM    777  CZ  PHE A 111      28.911  39.068  45.177  1.00 43.00           C
ATOM    778  N   GLN A 112      25.434  36.479  51.200  1.00 46.35           N
ATOM    779  CA  GLN A 112      24.401  36.052  52.130  1.00 46.52           C
ATOM    780  C   GLN A 112      23.040  36.638  51.754  1.00 46.68           C
ATOM    781  O   GLN A 112      22.019  35.995  51.968  1.00 46.87           O
ATOM    782  CB  GLN A 112      24.774  36.438  53.567  1.00 46.62           C
ATOM    783  CG  GLN A 112      26.201  36.060  53.998  1.00 46.96           C
ATOM    784  CD  GLN A 112      26.418  34.554  54.125  1.00 48.05           C
ATOM    785  OE1 GLN A 112      25.834  33.762  53.372  1.00 47.89           O
ATOM    786  NE2 GLN A 112      27.271  34.158  55.075  1.00 48.55           N
ATOM    787  N   ASN A 113      23.019  37.836  51.168  1.00 46.80           N
ATOM    788  CA  ASN A 113      21.750  38.463  50.793  1.00 46.89           C
ATOM    789  C   ASN A 113      21.104  37.951  49.517  1.00 47.08           C
ATOM    790  O   ASN A 113      20.105  38.521  49.077  1.00 47.55           O
ATOM    791  CB  ASN A 113      21.898  39.976  50.682  1.00 46.69           C
ATOM    792  CG  ASN A 113      22.258  40.604  52.001  1.00 46.91           C
ATOM    793  OD1 ASN A 113      22.085  39.982  53.055  1.00 46.08           O
ATOM    794  ND2 ASN A 113      22.767  41.837  51.962  1.00 46.59           N
ATOM    795  N   PHE A 114      21.651  36.908  48.903  1.00 47.08           N
ATOM    796  CA  PHE A 114      21.012  36.379  47.706  1.00 47.01           C
ATOM    797  C   PHE A 114      19.986  35.364  48.145  1.00 47.11           C
ATOM    798  O   PHE A 114      20.293  34.449  48.916  1.00 47.34           O
ATOM    799  CB  PHE A 114      21.995  35.713  46.764  1.00 46.83           C
ATOM    800  CG  PHE A 114      21.342  35.132  45.555  1.00 47.03           C
ATOM    801  CD1 PHE A 114      20.674  35.953  44.655  1.00 47.22           C
ATOM    802  CD2 PHE A 114      21.376  33.761  45.318  1.00 47.97           C
ATOM    803  CE1 PHE A 114      20.060  35.422  43.522  1.00 47.53           C
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ATOM    804  CE2 PHE A 114      20.763  33.212  44.177  1.00 47.83           C
ATOM    805  CZ  PHE A 114      20.104  34.044  43.282  1.00 47.67           C
ATOM    806  N   LYS A 115      18.763  35.530  47.662  1.00 46.94           N
ATOM    807  CA  LYS A 115      17.683  34.628  48.029  1.00 46.64           C
ATOM    808  C   LYS A 115      17.109  34.063  46.744  1.00 46.38           C
ATOM    809  O   LYS A 115      16.351  34.744  46.046  1.00 46.75           O
ATOM    810  CB  LYS A 115      16.613  35.372  48.835  1.00 46.60           C
ATOM    811  N   PRO A 116      17.445  32.813  46.449  1.00 45.84           N
ATOM    812  CA  PRO A 116      17.079  32.192  45.165  1.00 45.70           C
ATOM    813  C   PRO A 116      15.576  32.139  44.937  1.00 45.44           C
ATOM    814  O   PRO A 116      14.827  31.956  45.892  1.00 45.46           O
ATOM    815  CB  PRO A 116      17.640  30.761  45.260  1.00 45.71           C
ATOM    816  CG  PRO A 116      18.435  30.689  46.536  1.00 45.66           C
ATOM    817  CD  PRO A 116      18.137  31.890  47.359  1.00 45.75           C
ATOM    818  N   ARG A 117      15.154  32.307  43.688  1.00 45.27           N
ATOM    819  CA  ARG A 117      13.742  32.232  43.332  1.00 45.16           C
ATOM    820  C   ARG A 117      13.291  30.791  43.104  1.00 45.12           C
ATOM    821  O   ARG A 117      12.096  30.500  43.207  1.00 45.48           O
ATOM    822  CB  ARG A 117      13.467  33.059  42.097  1.00 45.26           C
ATOM    823  N   SER A 118      14.238  29.902  42.796  1.00 44.78           N
ATOM    824  CA  SER A 118      13.944  28.480  42.594  1.00 44.60           C
ATOM    825  C   SER A 118      14.782  27.583  43.509  1.00 44.63           C
ATOM    826  O   SER A 118      15.925  27.921  43.816  1.00 45.32           O
ATOM    827  CB  SER A 118      14.303  28.072  41.184  1.00 44.44           C
ATOM    828  OG  SER A 118      15.651  27.624  41.186  1.00 44.35           O
ATOM    829  N   ASN A 119      14.241  26.428  43.899  1.00 44.11           N
ATOM    830  CA  ASN A 119      14.969  25.472  44.728  1.00 43.72           C
ATOM    831  C   ASN A 119      15.295  24.196  43.953  1.00 43.16           C
ATOM    832  O   ASN A 119      14.576  23.821  43.030  1.00 43.23           O
ATOM    833  CB  ASN A 119      14.147  25.078  45.955  1.00 44.03           C
ATOM    834  CG  ASN A 119      13.514  26.264  46.646  1.00 44.80           C
ATOM    835  OD1 ASN A 119      14.207  27.129  47.197  1.00 46.56           O
ATOM    836  ND2 ASN A 119      12.184  26.303  46.640  1.00 45.18           N
ATOM    837  N   ARG A 120      16.380  23.533  44.337  1.00 42.37           N
ATOM    838  CA  ARG A 120      16.778  22.278  43.716  1.00 41.69           C
ATOM    839  C   ARG A 120      16.368  21.162  44.656  1.00 41.20           C
ATOM    840  O   ARG A 120      16.577  21.267  45.859  1.00 41.46           O
ATOM    841  CB  ARG A 120      18.299  22.239  43.504  1.00 41.70           C
ATOM    842  CG  ARG A 120      18.827  21.002  42.754  1.00 40.96           C
ATOM    843  CD  ARG A 120      20.351  20.897  42.683  1.00 39.92           C
ATOM    844  NE  ARG A 120      21.001  21.327  43.920  1.00 39.89           N
ATOM    845  CZ  ARG A 120      21.337  20.523  44.921  1.00 39.57           C
ATOM    846  NH1 ARG A 120      21.084  19.217  44.856  1.00 39.43           N
ATOM    847  NH2 ARG A 120      21.930  21.027  45.998  1.00 39.06           N
ATOM    848  N   GLU A 121      15.769  20.109  44.115  1.00 40.44           N
ATOM    849  CA  GLU A 121      15.380  18.956  44.908  1.00 39.92           C
ATOM    850  C   GLU A 121      15.840  17.702  44.161  1.00 39.36           C
ATOM    851  O   GLU A 121      15.716  17.617  42.942  1.00 39.20           O
ATOM    852  CB  GLU A 121      13.866  18.950  45.170  1.00 39.97           C
ATOM    853  CG  GLU A 121      13.369  17.698  45.876  1.00 40.42           C
ATOM    854  CD  GLU A 121      12.136  17.928  46.731  1.00 41.22           C
ATOM    855  OE1 GLU A 121      12.291  18.365  47.890  1.00 41.90           O
ATOM    856  OE2 GLU A 121      11.016  17.645  46.259  1.00 42.21           O
ATOM    857  N   GLU A 122      16.414  16.752  44.889  1.00 38.78           N
ATOM    858  CA  GLU A 122      16.879  15.519  44.285  1.00 38.34           C
ATOM    859  C   GLU A 122      15.760  14.523  44.374  1.00 38.13           C
ATOM    860  O   GLU A 122      15.171  14.353  45.435  1.00 38.09           O
ATOM    861  CB  GLU A 122      18.092  14.989  45.025  1.00 38.08           C
ATOM    862  CG  GLU A 122      19.263  15.928  44.936  1.00 38.04           C
ATOM    863  CD  GLU A 122      19.581  16.289  43.497  1.00 39.25           C
ATOM    864  OE1 GLU A 122      19.763  15.364  42.667  1.00 38.89           O
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ATOM    865  OE2 GLU A 122      19.627  17.501  43.183  1.00 40.06           O
ATOM    866  N   MET A 123      15.434  13.879  43.265  1.00 37.93           N
ATOM    867  CA  MET A 123      14.384  12.885  43.312  1.00 37.84           C
ATOM    868  C   MET A 123      14.536  11.819  42.242  1.00 37.41           C
ATOM    869  O   MET A 123      15.418  11.876  41.387  1.00 37.04           O
ATOM    870  CB  MET A 123      13.021  13.565  43.225  1.00 38.01           C
ATOM    871  CG  MET A 123      12.798  14.318  41.946  1.00 39.05           C
ATOM    872  SD  MET A 123      11.177  15.064  41.910  1.00 41.38           S
ATOM    873  CE  MET A 123      11.489  16.589  42.818  1.00 41.39           C
ATOM    874  N   LYS A 124      13.675  10.820  42.332  1.00 37.17           N
ATOM    875  CA  LYS A 124      13.692   9.715  41.401  1.00 36.98           C
ATOM    876  C   LYS A 124      12.802  10.098  40.238  1.00 36.81           C
ATOM    877  O   LYS A 124      11.814  10.813  40.402  1.00 36.91           O
ATOM    878  CB  LYS A 124      13.213   8.434  42.087  1.00 36.82           C
ATOM    879  CG  LYS A 124      14.081   7.989  43.281  1.00 36.79           C
ATOM    880  CD  LYS A 124      15.488   7.553  42.856  1.00 36.83           C
ATOM    881  CE  LYS A 124      16.390   7.206  44.031  1.00 36.89           C
ATOM    882  NZ  LYS A 124      17.822   7.412  43.680  1.00 36.99           N
ATOM    883  N   PHE A 125      13.145   9.622  39.056  1.00 36.49           N
ATOM    884  CA  PHE A 125      12.416  10.031  37.885  1.00 36.33           C
ATOM    885  C   PHE A 125      10.926   9.861  38.074  1.00 36.45           C
ATOM    886  O   PHE A 125      10.143  10.743  37.732  1.00 36.30           O
ATOM    887  CB  PHE A 125      12.879   9.270  36.665  1.00 36.24           C
ATOM    888  CG  PHE A 125      12.555   9.967  35.407  1.00 36.21           C
ATOM    889  CD1 PHE A 125      13.403  10.936  34.924  1.00 35.98           C
ATOM    890  CD2 PHE A 125      11.374   9.714  34.743  1.00 36.15           C
ATOM    891  CE1 PHE A 125      13.108  11.616  33.794  1.00 36.07           C
ATOM    892  CE2 PHE A 125      11.073  10.390  33.597  1.00 36.71           C
ATOM    893  CZ  PHE A 125      11.943  11.350  33.120  1.00 36.73           C
ATOM    894  N   HIS A 126      10.527   8.733  38.640  1.00 36.80           N
ATOM    895  CA  HIS A 126       9.111   8.492  38.845  1.00 36.98           C
ATOM    896  C   HIS A 126       8.547   9.560  39.772  1.00 37.20           C
ATOM    897  O   HIS A 126       7.376   9.923  39.669  1.00 37.15           O
ATOM    898  CB  HIS A 126       8.845   7.080  39.390  1.00 36.97           C
ATOM    899  CG  HIS A 126       8.990   6.946  40.877  1.00 36.62           C
ATOM    900  ND1 HIS A 126       7.935   7.115  41.747  1.00 35.91           N
ATOM    901  CD2 HIS A 126      10.058   6.618  41.644  1.00 36.38           C
ATOM    902  CE1 HIS A 126       8.352   6.921  42.986  1.00 35.63           C
ATOM    903  NE2 HIS A 126       9.636   6.619  42.951  1.00 35.43           N
ATOM    904  N   GLU A 127       9.383  10.082  40.663  1.00 37.34           N
ATOM    905  CA  GLU A 127       8.912  11.087  41.599  1.00 37.55           C
ATOM    906  C   GLU A 127       8.657  12.379  40.835  1.00 37.54           C
ATOM    907  O   GLU A 127       7.657  13.061  41.049  1.00 37.36           O
ATOM    908  CB  GLU A 127       9.914  11.308  42.736  1.00 37.65           C
ATOM    909  CG  GLU A 127      10.155  10.091  43.617  1.00 37.89           C
ATOM    910  CD  GLU A 127      11.113  10.383  44.764  1.00 38.14           C
ATOM    911  OE1 GLU A 127      12.330  10.531  44.520  1.00 37.77           O
ATOM    912  OE2 GLU A 127      10.649  10.471  45.917  1.00 38.86           O
ATOM    913  N   PHE A 128       9.557  12.702  39.920  1.00 37.65           N
ATOM    914  CA  PHE A 128       9.393  13.904  39.127  1.00 37.81           C
ATOM    915  C   PHE A 128       8.090  13.798  38.350  1.00 37.95           C
ATOM    916  O   PHE A 128       7.280  14.726  38.342  1.00 37.90           O
ATOM    917  CB  PHE A 128      10.578  14.061  38.173  1.00 37.88           C
ATOM    918  CG  PHE A 128      10.332  15.012  37.028  1.00 37.52           C
ATOM    919  CD1 PHE A 128      10.088  16.355  37.258  1.00 36.94           C
ATOM    920  CD2 PHE A 128      10.380  14.559  35.720  1.00 37.02           C
ATOM    921  CE1 PHE A 128       9.876  17.219  36.203  1.00 37.09           C
ATOM    922  CE2 PHE A 128      10.170  15.423  34.663  1.00 37.21           C
ATOM    923  CZ  PHE A 128       9.917  16.748  34.901  1.00 37.15           C
ATOM    924  N   VAL A 129       7.878  12.646  37.726  1.00 38.00           N
ATOM    925  CA  VAL A 129       6.716  12.454  36.876  1.00 38.16           C
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ATOM    926  C   VAL A 129       5.442  12.637  37.671  1.00 38.24           C
ATOM    927  O   VAL A 129       4.494  13.286  37.224  1.00 38.04           O
ATOM    928  CB  VAL A 129       6.705  11.050  36.268  1.00 38.36           C
ATOM    929  CG1 VAL A 129       5.398  10.810  35.508  1.00 38.41           C
ATOM    930  CG2 VAL A 129       7.935  10.841  35.372  1.00 38.22           C
ATOM    931  N   GLU A 130       5.430  12.038  38.854  1.00 38.42           N
ATOM    932  CA  GLU A 130       4.289  12.115  39.745  1.00 38.54           C
ATOM    933  C   GLU A 130       4.025  13.578  40.083  1.00 38.43           C
ATOM    934  O   GLU A 130       2.898  14.056  39.960  1.00 38.29           O
ATOM    935  CB  GLU A 130       4.547  11.265  40.997  1.00 38.69           C
ATOM    936  CG  GLU A 130       4.404   9.763  40.745  1.00 39.15           C
ATOM    937  CD  GLU A 130       5.160   8.897  41.740  1.00 39.75           C
ATOM    938  OE1 GLU A 130       5.551   9.403  42.815  1.00 40.08           O
ATOM    939  OE2 GLU A 130       5.355   7.697  41.441  1.00 40.15           O
ATOM    940  N   LYS A 131       5.070  14.299  40.471  1.00 38.39           N
ATOM    941  CA  LYS A 131       4.908  15.707  40.787  1.00 38.52           C
ATOM    942  C   LYS A 131       4.290  16.431  39.598  1.00 38.61           C
ATOM    943  O   LYS A 131       3.393  17.252  39.769  1.00 38.51           O
ATOM    944  CB  LYS A 131       6.240  16.356  41.149  1.00 38.58           C
ATOM    945  CG  LYS A 131       6.440  16.666  42.625  1.00 38.76           C
ATOM    946  CD  LYS A 131       7.045  18.060  42.753  1.00 39.73           C
ATOM    947  CE  LYS A 131       7.756  18.316  44.070  1.00 40.49           C
ATOM    948  NZ  LYS A 131       8.117  19.772  44.197  1.00 40.68           N
ATOM    949  N   LEU A 132       4.764  16.136  38.391  1.00 38.84           N
ATOM    950  CA  LEU A 132       4.196  16.771  37.208  1.00 39.00           C
ATOM    951  C   LEU A 132       2.726  16.429  37.113  1.00 39.11           C
ATOM    952  O   LEU A 132       1.903  17.287  36.810  1.00 39.20           O
ATOM    953  CB  LEU A 132       4.894  16.328  35.932  1.00 38.96           C
ATOM    954  CG  LEU A 132       6.287  16.899  35.723  1.00 39.44           C
ATOM    955  CD1 LEU A 132       6.870  16.389  34.429  1.00 39.81           C
ATOM    956  CD2 LEU A 132       6.261  18.421  35.709  1.00 40.07           C
ATOM    957  N   GLN A 133       2.396  15.170  37.367  1.00 39.22           N
ATOM    958  CA  GLN A 133       1.005  14.758  37.335  1.00 39.38           C
ATOM    959  C   GLN A 133       0.172  15.523  38.370  1.00 39.57           C
ATOM    960  O   GLN A 133      -0.893  16.034  38.029  1.00 39.48           O
ATOM    961  CB  GLN A 133       0.874  13.250  37.536  1.00 39.22           C
ATOM    962  N   ASP A 134       0.656  15.631  39.611  1.00 39.91           N
ATOM    963  CA  ASP A 134      -0.129  16.279  40.677  1.00 40.29           C
ATOM    964  C   ASP A 134      -0.437  17.732  40.379  1.00 40.17           C
ATOM    965  O   ASP A 134      -1.543  18.211  40.623  1.00 40.02           O
ATOM    966  CB  ASP A 134       0.564  16.198  42.041  1.00 40.57           C
ATOM    967  CG  ASP A 134      -0.348  16.660  43.182  1.00 41.99           C
ATOM    968  OD1 ASP A 134      -1.301  17.421  42.910  1.00 43.76           O
ATOM    969  OD2 ASP A 134      -0.212  16.312  44.378  1.00 44.05           O
ATOM    970  N   ILE A 135       0.545  18.438  39.846  1.00 40.17           N
ATOM    971  CA  ILE A 135       0.350  19.836  39.556  1.00 40.10           C
ATOM    972  C   ILE A 135      -0.719  19.973  38.500  1.00 40.10           C
ATOM    973  O   ILE A 135      -1.648  20.759  38.652  1.00 40.26           O
ATOM    974  CB  ILE A 135       1.639  20.455  39.085  1.00 40.10           C
ATOM    975  CG1 ILE A 135       2.612  20.560  40.261  1.00 40.11           C
ATOM    976  CG2 ILE A 135       1.358  21.817  38.507  1.00 40.22           C
ATOM    977  CD1 ILE A 135       4.056  20.688  39.842  1.00 40.17           C
ATOM    978  N   GLN A 136      -0.596  19.198  37.431  1.00 40.02           N
ATOM    979  CA  GLN A 136      -1.586  19.248  36.376  1.00 39.96           C
ATOM    980  C   GLN A 136      -2.956  19.094  37.000  1.00 39.99           C
ATOM    981  O   GLN A 136      -3.795  19.991  36.921  1.00 39.86           O
ATOM    982  CB  GLN A 136      -1.350  18.144  35.361  1.00 40.00           C
ATOM    983  N   GLN A 137      -3.158  17.972  37.679  1.00 40.18           N
ATOM    984  CA  GLN A 137      -4.486  17.630  38.164  1.00 40.31           C
ATOM    985  C   GLN A 137      -4.995  18.683  39.114  1.00 40.45           C
ATOM    986  O   GLN A 137      -6.170  19.046  39.068  1.00 40.75           O
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ATOM    987  CB  GLN A 137     -4.502  16.247  38.829  1.00 40.24           C
ATOM    988  N   ARG A 138     -4.116  19.200  39.959  1.00 40.45           N
ATOM    989  CA  ARG A 138     -4.560  20.159  40.956  1.00 40.45           C
ATOM    990  C   ARG A 138     -4.568  21.588  40.419  1.00 40.54           C
ATOM    991  O   ARG A 138     -4.678  22.541  41.188  1.00 40.67           O
ATOM    992  CB  ARG A 138     -3.692  20.069  42.207  1.00 40.43           C
ATOM    993  CG  ARG A 138     -2.399  20.868  42.161  1.00 40.03           C
ATOM    994  CD  ARG A 138     -1.541  20.546  43.346  1.00 39.94           C
ATOM    995  NE  ARG A 138     -0.431  21.458  43.580  1.00 39.71           N
ATOM    996  CZ  ARG A 138      0.842  21.098  43.498  1.00 40.13           C
ATOM    997  NH1 ARG A 138      1.164  19.857  43.150  1.00 40.53           N
ATOM    998  NH2 ARG A 138      1.800  21.978  43.747  1.00 40.33           N
ATOM    999  N   GLY A 139     -4.471  21.742  39.102  1.00 40.47           N
ATOM   1000  CA  GLY A 139     -4.418  23.066  38.508  1.00 40.46           C
ATOM   1001  C   GLY A 139     -3.432  24.021  39.176  1.00 40.45           C
ATOM   1002  O   GLY A 139     -3.616  25.235  39.110  1.00 40.46           O
ATOM   1003  N   GLY A 140     -2.370  23.490  39.780  1.00 40.47           N
ATOM   1004  CA  GLY A 140     -1.425  24.314  40.519  1.00 40.45           C
ATOM   1005  C   GLY A 140     -0.695  25.272  39.602  1.00 40.40           C
ATOM   1006  O   GLY A 140     -0.784  25.116  38.383  1.00 40.79           O
ATOM   1007  N   GLU A 141     -0.015  26.273  40.167  1.00 40.10           N
ATOM   1008  CA  GLU A 141      0.807  27.195  39.371  1.00 40.01           C
ATOM   1009  C   GLU A 141      2.305  26.854  39.458  1.00 39.64           C
ATOM   1010  O   GLU A 141      3.112  27.386  38.692  1.00 39.52           O
ATOM   1011  CB  GLU A 141      0.589  28.660  39.796  1.00 40.20           C
ATOM   1012  CG  GLU A 141     -0.711  29.298  39.315  1.00 41.00           C
ATOM   1013  CD  GLU A 141     -0.845  29.307  37.800  1.00 42.10           C
ATOM   1014  OE1 GLU A 141      0.194  29.181  37.113  1.00 41.99           O
ATOM   1015  OE2 GLU A 141     -1.990  29.437  37.300  1.00 43.15           O
ATOM   1016  N   GLU A 142      2.676  25.977  40.392  1.00 39.25           N
ATOM   1017  CA  GLU A 142      4.075  25.589  40.563  1.00 38.95           C
ATOM   1018  C   GLU A 142      4.613  25.162  39.210  1.00 38.74           C
ATOM   1019  O   GLU A 142      3.859  24.694  38.351  1.00 38.77           O
ATOM   1020  CB  GLU A 142      4.220  24.433  41.577  1.00 38.95           C
ATOM   1021  CG  GLU A 142      5.658  24.138  42.019  1.00 38.90           C
ATOM   1022  CD  GLU A 142      5.797  22.950  42.971  1.00 38.93           C
ATOM   1023  OE1 GLU A 142      4.836  22.164  43.130  1.00 39.58           O
ATOM   1024  OE2 GLU A 142      6.888  22.799  43.565  1.00 38.74           O
ATOM   1025  N   ARG A 143      5.914  25.332  39.020  1.00 38.39           N
ATOM   1026  CA  ARG A 143      6.569  24.908  37.796  1.00 38.25           C
ATOM   1027  C   ARG A 143      7.809  24.122  38.122  1.00 38.14           C
ATOM   1028  O   ARG A 143      8.512  24.450  39.078  1.00 38.46           O
ATOM   1029  CB  ARG A 143      7.046  26.107  37.003  1.00 38.26           C
ATOM   1030  CG  ARG A 143      5.986  26.945  36.398  1.00 37.89           C
ATOM   1031  CD  ARG A 143      6.602  28.026  35.555  1.00 37.35           C
ATOM   1032  NE  ARG A 143      5.610  28.814  34.849  1.00 36.66           N
ATOM   1033  CZ  ARG A 143      5.316  28.668  33.573  1.00 36.40           C
ATOM   1034  NH1 ARG A 143      5.933  27.755  32.831  1.00 36.41           N
ATOM   1035  NH2 ARG A 143      4.397  29.443  33.034  1.00 37.02           N
ATOM   1036  N   LEU A 144      8.116  23.124  37.304  1.00 37.71           N
ATOM   1037  CA  LEU A 144      9.319  22.349  37.517  1.00 37.57           C
ATOM   1038  C   LEU A 144     10.181  22.319  36.294  1.00 37.33           C
ATOM   1039  O   LEU A 144      9.710  22.466  35.165  1.00 37.31           O
ATOM   1040  CB  LEU A 144      8.979  20.909  37.858  1.00 37.69           C
ATOM   1041  CG  LEU A 144      7.981  20.736  38.993  1.00 38.31           C
ATOM   1042  CD1 LEU A 144      7.612  19.255  39.165  1.00 39.02           C
ATOM   1043  CD2 LEU A 144      8.551  21.327  40.263  1.00 37.91           C
ATOM   1044  N   TYR A 145     11.460  22.098  36.528  1.00 37.01           N
ATOM   1045  CA  TYR A 145     12.379  21.922  35.437  1.00 36.87           C
ATOM   1046  C   TYR A 145     13.397  20.886  35.871  1.00 36.85           C
ATOM   1047  O   TYR A 145     14.146  21.093  36.819  1.00 36.51           O
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ATOM   1048  CB  TYR A 145      13.043  23.255  35.110  1.00 36.92           C
ATOM   1049  CG  TYR A 145      13.505  23.446  33.686  1.00 36.38           C
ATOM   1050  CD1 TYR A 145      13.845  22.383  32.875  1.00 36.31           C
ATOM   1051  CD2 TYR A 145      13.619  24.716  33.163  1.00 36.28           C
ATOM   1052  CE1 TYR A 145      14.278  22.590  31.582  1.00 36.21           C
ATOM   1053  CE2 TYR A 145      14.047  24.923  31.880  1.00 35.94           C
ATOM   1054  CZ  TYR A 145      14.374  23.862  31.093  1.00 35.54           C
ATOM   1055  OH  TYR A 145      14.789  24.081  29.799  1.00 36.13           O
ATOM   1056  N   LEU A 146      13.378  19.736  35.218  1.00 37.06           N
ATOM   1057  CA  LEU A 146      14.396  18.742  35.477  1.00 37.49           C
ATOM   1058  C   LEU A 146      15.628  19.029  34.629  1.00 37.55           C
ATOM   1059  O   LEU A 146      15.532  19.241  33.427  1.00 37.31           O
ATOM   1060  CB  LEU A 146      13.877  17.341  35.173  1.00 37.69           C
ATOM   1061  CG  LEU A 146      14.919  16.233  35.349  1.00 37.95           C
ATOM   1062  CD1 LEU A 146      14.234  14.916  35.567  1.00 37.66           C
ATOM   1063  CD2 LEU A 146      15.849  16.133  34.151  1.00 39.00           C
ATOM   1064  N   GLN A 147      16.786  18.993  35.269  1.00 37.84           N
ATOM   1065  CA  GLN A 147      18.053  19.259  34.617  1.00 38.09           C
ATOM   1066  C   GLN A 147      19.088  18.397  35.306  1.00 37.92           C
ATOM   1067  O   GLN A 147      19.453  18.661  36.443  1.00 37.87           O
ATOM   1068  CB  GLN A 147      18.421  20.725  34.773  1.00 38.37           C
ATOM   1069  CG  GLN A 147      17.331  21.686  34.362  1.00 39.01           C
ATOM   1070  CD  GLN A 147      17.867  23.064  34.191  1.00 39.92           C
ATOM   1071  OE1 GLN A 147      17.149  23.955  33.772  1.00 42.51           O
ATOM   1072  NE2 GLN A 147      19.137  23.253  34.520  1.00 40.24           N
ATOM   1073  N   GLN A 148      19.576  17.385  34.601  1.00 37.81           N
ATOM   1074  CA  GLN A 148      20.433  16.377  35.196  1.00 37.57           C
ATOM   1075  C   GLN A 148      21.325  15.744  34.176  1.00 37.68           C
ATOM   1076  O   GLN A 148      20.876  15.266  33.146  1.00 37.30           O
ATOM   1077  CB  GLN A 148      19.576  15.261  35.773  1.00 37.61           C
ATOM   1078  CG  GLN A 148      20.336  13.971  36.068  1.00 36.79           C
ATOM   1079  CD  GLN A 148      21.398  14.159  37.117  1.00 35.97           C
ATOM   1080  OE1 GLN A 148      21.162  14.814  38.135  1.00 35.11           O
ATOM   1081  NE2 GLN A 148      22.577  13.593  36.875  1.00 35.03           N
ATOM   1082  N   THR A 149      22.596  15.698  34.503  1.00 38.15           N
ATOM   1083  CA  THR A 149      23.574  15.130  33.622  1.00 38.57           C
ATOM   1084  C   THR A 149      23.354  13.647  33.506  1.00 38.68           C
ATOM   1085  O   THR A 149      23.154  12.973  34.509  1.00 39.07           O
ATOM   1086  CB  THR A 149      24.936  15.410  34.214  1.00 38.75           C
ATOM   1087  OG1 THR A 149      25.206  16.807  34.088  1.00 38.86           O
ATOM   1088  CG2 THR A 149      26.036  14.759  33.418  1.00 39.39           C
ATOM   1089  N   LEU A 150      23.393  13.144  32.279  1.00 38.87           N
ATOM   1090  CA  LEU A 150      23.259  11.722  32.021  1.00 39.24           C
ATOM   1091  C   LEU A 150      24.498  10.979  32.507  1.00 39.20           C
ATOM   1092  O   LEU A 150      25.602  11.317  32.101  1.00 39.20           O
ATOM   1093  CB  LEU A 150      23.146  11.465  30.519  1.00 39.46           C
ATOM   1094  CG  LEU A 150      21.938  11.942  29.722  1.00 40.52           C
ATOM   1095  CD1 LEU A 150      22.077  11.563  28.237  1.00 41.06           C
ATOM   1096  CD2 LEU A 150      20.712  11.308  30.303  1.00 41.66           C
ATOM   1097  N   ASN A 151      24.315   9.960  33.343  1.00 39.19           N
ATOM   1098  CA  ASN A 151      25.436   9.171  33.861  1.00 39.46           C
ATOM   1099  C   ASN A 151      25.193   7.642  33.883  1.00 39.43           C
ATOM   1100  O   ASN A 151      24.198   7.162  33.333  1.00 39.15           O
ATOM   1101  CB  ASN A 151      25.731   9.652  35.265  1.00 39.54           C
ATOM   1102  CG  ASN A 151      24.511   9.588  36.150  1.00 40.08           C
ATOM   1103  OD1 ASN A 151      23.874   8.533  36.283  1.00 39.68           O
ATOM   1104  ND2 ASN A 151      24.158  10.725  36.751  1.00 40.83           N
ATOM   1105  N   ASP A 152      26.075   6.892  34.556  1.00 39.43           N
ATOM   1106  CA  ASP A 152      26.025   5.413  34.543  1.00 39.58           C
ATOM   1107  C   ASP A 152      24.761   4.787  35.083  1.00 39.17           C
ATOM   1108  O   ASP A 152      24.477   3.634  34.776  1.00 39.29           O
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ATOM   1109  CB  ASP A 152      27.138   4.756  35.385  1.00 39.92           C
ATOM   1110  CG  ASP A 152      28.489   5.382  35.198  1.00 41.53           C
ATOM   1111  OD1 ASP A 152      28.722   6.005  34.134  1.00 45.10           O
ATOM   1112  OD2 ASP A 152      29.378   5.294  36.076  1.00 42.02           O
ATOM   1113  N   THR A 153      24.008   5.493  35.909  1.00 38.78           N
ATOM   1114  CA  THR A 153      22.881   4.830  36.542  1.00 38.50           C
ATOM   1115  C   THR A 153      21.757   4.573  35.573  1.00 38.26           C
ATOM   1116  O   THR A 153      20.842   3.838  35.882  1.00 38.29           O
ATOM   1117  CB  THR A 153      22.329   5.624  37.733  1.00 38.46           C
ATOM   1118  OG1 THR A 153      21.622   6.780  37.269  1.00 39.25           O
ATOM   1119  CG2 THR A 153      23.445   6.161  38.611  1.00 38.28           C
ATOM   1120  N   VAL A 154      21.804   5.165  34.396  1.00 38.28           N
ATOM   1121  CA  VAL A 154      20.687   4.977  33.491  1.00 38.29           C
ATOM   1122  C   VAL A 154      20.602   3.530  33.067  1.00 38.17           C
ATOM   1123  O   VAL A 154      21.597   2.805  33.092  1.00 38.10           O
ATOM   1124  CB  VAL A 154      20.786   5.838  32.251  1.00 38.15           C
ATOM   1125  CG1 VAL A 154      20.815   7.291  32.649  1.00 38.22           C
ATOM   1126  CG2 VAL A 154      22.007   5.437  31.443  1.00 38.40           C
ATOM   1127  N   GLY A 155      19.395   3.132  32.681  1.00 38.05           N
ATOM   1128  CA  GLY A 155      19.114   1.779  32.258  1.00 38.07           C
ATOM   1129  C   GLY A 155      19.609   1.358  30.894  1.00 38.17           C
ATOM   1130  O   GLY A 155      20.092   2.153  30.081  1.00 38.44           O
ATOM   1131  N   ARG A 156      19.417   0.073  30.642  1.00 38.16           N
ATOM   1132  CA  ARG A 156      19.932  -0.588  29.461  1.00 38.16           C
ATOM   1133  C   ARG A 156      19.414   0.065  28.210  1.00 38.01           C
ATOM   1134  O   ARG A 156      20.185   0.490  27.346  1.00 38.04           O
ATOM   1135  CB  ARG A 156      19.554  -2.080  29.489  1.00 38.18           C
ATOM   1136  N   LYS A 157      18.102   0.178  28.118  1.00 37.83           N
ATOM   1137  CA  LYS A 157      17.545   0.713  26.905  1.00 37.67           C
ATOM   1138  C   LYS A 157      18.144   2.092  26.679  1.00 37.77           C
ATOM   1139  O   LYS A 157      18.579   2.386  25.571  1.00 37.84           O
ATOM   1140  CB  LYS A 157      16.014   0.725  26.936  1.00 37.62           C
ATOM   1141  CG  LYS A 157      15.379  -0.624  26.550  1.00 36.92           C
ATOM   1142  N   ILE A 158      18.247   2.911  27.728  1.00 37.82           N
ATOM   1143  CA  ILE A 158      18.699   4.287  27.526  1.00 37.81           C
ATOM   1144  C   ILE A 158      20.096   4.252  27.008  1.00 37.78           C
ATOM   1145  O   ILE A 158      20.440   4.942  26.058  1.00 37.52           O
ATOM   1146  CB  ILE A 158      18.666   5.109  28.802  1.00 37.90           C
ATOM   1147  CG1 ILE A 158      17.233   5.283  29.280  1.00 37.87           C
ATOM   1148  CG2 ILE A 158      19.281   6.477  28.538  1.00 37.57           C
ATOM   1149  CD1 ILE A 158      16.383   6.034  28.318  1.00 37.95           C
ATOM   1150  N   VAL A 159      20.899   3.418  27.637  1.00 37.89           N
ATOM   1151  CA  VAL A 159      22.263   3.265  27.211  1.00 38.06           C
ATOM   1152  C   VAL A 159      22.255   2.906  25.725  1.00 38.07           C
ATOM   1153  O   VAL A 159      23.025   3.462  24.955  1.00 37.93           O
ATOM   1154  CB  VAL A 159      22.987   2.196  28.039  1.00 38.12           C
ATOM   1155  CG1 VAL A 159      24.208   1.740  27.315  1.00 38.65           C
ATOM   1156  CG2 VAL A 159      23.368   2.734  29.410  1.00 37.65           C
ATOM   1157  N   MET A 160      21.385   1.984  25.318  1.00 38.30           N
ATOM   1158  CA  MET A 160      21.264   1.658  23.894  1.00 38.71           C
ATOM   1159  C   MET A 160      21.024   2.923  23.084  1.00 38.35           C
ATOM   1160  O   MET A 160      21.742   3.219  22.137  1.00 38.42           O
ATOM   1161  CB  MET A 160      20.115   0.682  23.636  1.00 38.93           C
ATOM   1162  CG  MET A 160      20.431  -0.690  24.087  1.00 40.64           C
ATOM   1163  SD  MET A 160      21.840  -1.293  23.180  1.00 44.02           S
ATOM   1164  CE  MET A 160      20.982  -1.709  21.617  1.00 44.00           C
ATOM   1165  N   ASP A 161      19.997   3.665  23.458  1.00 37.94           N
ATOM   1166  CA  ASP A 161      19.702   4.902  22.773  1.00 37.82           C
ATOM   1167  C   ASP A 161      20.955   5.788  22.684  1.00 37.50           C
ATOM   1168  O   ASP A 161      21.395   6.154  21.596  1.00 37.66           O
ATOM   1169  CB  ASP A 161      18.591   5.650  23.511  1.00 37.84           C
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ATOM   1170  CG  ASP A 161      17.274   4.908  23.501  1.00 37.82           C
ATOM   1171  OD1 ASP A 161      17.082   4.020  22.646  1.00 37.72           O
ATOM   1172  OD2 ASP A 161      16.366   5.155  24.320  1.00 38.41           O
ATOM   1173  N   PHE A 162      21.539   6.100  23.836  1.00 36.93           N
ATOM   1174  CA  PHE A 162      22.672   7.020  23.919  1.00 36.54           C
ATOM   1175  C   PHE A 162      23.760   6.604  22.960  1.00 36.03           C
ATOM   1176  O   PHE A 162      24.375   7.446  22.304  1.00 36.06           O
ATOM   1177  CB  PHE A 162      23.201   7.063  25.364  1.00 36.52           C
ATOM   1178  CG  PHE A 162      24.386   7.974  25.576  1.00 36.64           C
ATOM   1179  CD1 PHE A 162      24.209   9.319  25.871  1.00 36.67           C
ATOM   1180  CD2 PHE A 162      25.682   7.467  25.540  1.00 37.81           C
ATOM   1181  CE1 PHE A 162      25.299  10.155  26.081  1.00 36.91           C
ATOM   1182  CE2 PHE A 162      26.787   8.300  25.764  1.00 37.75           C
ATOM   1183  CZ  PHE A 162      26.592   9.640  26.029  1.00 37.82           C
ATOM   1184  N   LEU A 163      23.976   5.297  22.878  1.00 35.38           N
ATOM   1185  CA  LEU A 163      24.998   4.730  22.023  1.00 34.93           C
ATOM   1186  C   LEU A 163      24.635   4.948  20.591  1.00 34.41           C
ATOM   1187  O   LEU A 163      25.502   5.067  19.732  1.00 34.36           O
ATOM   1188  CB  LEU A 163      25.111   3.239  22.272  1.00 35.05           C
ATOM   1189  CG  LEU A 163      25.977   2.932  23.473  1.00 35.25           C
ATOM   1190  CD1 LEU A 163      25.944   1.471  23.684  1.00 36.00           C
ATOM   1191  CD2 LEU A 163      27.404   3.425  23.270  1.00 35.64           C
ATOM   1192  N   GLY A 164      23.336   4.977  20.338  1.00 33.85           N
ATOM   1193  CA  GLY A 164      22.832   5.230  19.009  1.00 33.55           C
ATOM   1194  C   GLY A 164      22.874   6.682  18.548  1.00 33.11           C
ATOM   1195  O   GLY A 164      22.361   6.977  17.471  1.00 33.36           O
ATOM   1196  N   PHE A 165      23.443   7.589  19.341  1.00 32.16           N
ATOM   1197  CA  PHE A 165      23.593   8.964  18.894  1.00 31.85           C
ATOM   1198  C   PHE A 165      24.628   8.972  17.752  1.00 30.93           C
ATOM   1199  O   PHE A 165      25.413   8.063  17.650  1.00 30.67           O
ATOM   1200  CB  PHE A 165      24.028   9.883  20.055  1.00 32.06           C
ATOM   1201  CG  PHE A 165      22.989  10.052  21.160  1.00 32.55           C
ATOM   1202  CD1 PHE A 165      21.734   9.478  21.081  1.00 33.69           C
ATOM   1203  CD2 PHE A 165      23.293  10.786  22.289  1.00 32.64           C
ATOM   1204  CE1 PHE A 165      20.817   9.646  22.106  1.00 33.39           C
ATOM   1205  CE2 PHE A 165      22.380  10.948  23.308  1.00 32.11           C
ATOM   1206  CZ  PHE A 165      21.150  10.380  23.218  1.00 32.69           C
ATOM   1207  N   ASN A 166      24.600   9.977  16.881  1.00 30.43           N
ATOM   1208  CA  ASN A 166      25.552  10.106  15.761  1.00 30.00           C
ATOM   1209  C   ASN A 166      26.932  10.623  16.177  1.00 29.91           C
ATOM   1210  O   ASN A 166      27.370  11.721  15.812  1.00 28.90           O
ATOM   1211  CB  ASN A 166      24.957  11.013  14.673  1.00 29.86           C
ATOM   1212  CG  ASN A 166      25.720  10.957  13.363  1.00 28.91           C
ATOM   1213  OD1 ASN A 166      26.836  10.423  13.282  1.00 27.68           O
ATOM   1214  ND2 ASN A 166      25.119  11.528  12.320  1.00 26.76           N
ATOM   1215  N   TRP A 167      27.604   9.785  16.943  1.00 30.04           N
ATOM   1216  CA  TRP A 167      28.938  10.044  17.399  1.00 30.41           C
ATOM   1217  C   TRP A 167      29.823  10.295  16.205  1.00 30.80           C
ATOM   1218  O   TRP A 167      30.708  11.141  16.237  1.00 30.55           O
ATOM   1219  CB  TRP A 167      29.390   8.847  18.232  1.00 30.31           C
ATOM   1220  CG  TRP A 167      28.513   8.746  19.433  1.00 30.59           C
ATOM   1221  CD1 TRP A 167      27.594   7.792  19.699  1.00 30.51           C
ATOM   1222  CD2 TRP A 167      28.422   9.696  20.502  1.00 31.94           C
ATOM   1223  NE1 TRP A 167      26.947   8.067  20.881  1.00 30.98           N
ATOM   1224  CE2 TRP A 167      27.442   9.232  21.395  1.00 31.41           C
ATOM   1225  CE3 TRP A 167      29.087  10.885  20.801  1.00 31.71           C
ATOM   1226  CZ2 TRP A 167      27.112   9.904  22.554  1.00 32.59           C
ATOM   1227  CZ3 TRP A 167      28.750  11.560  21.944  1.00 32.92           C
ATOM   1228  CH2 TRP A 167      27.773  11.072  22.811  1.00 33.34           C
ATOM   1229  N   ASN A 168      29.549   9.596  15.119  1.00 31.69           N
ATOM   1230  CA  ASN A 168      30.352   9.771  13.936  1.00 32.37           C
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ATOM   1231  C   ASN A 168      30.447  11.229  13.590  1.00 32.97           C
ATOM   1232  O   ASN A 168      31.541  11.747  13.390  1.00 33.15           O
ATOM   1233  CB  ASN A 168      29.729   9.064  12.749  1.00 32.68           C
ATOM   1234  CG  ASN A 168      30.594   9.147  11.507  1.00 32.86           C
ATOM   1235  OD1 ASN A 168      31.797   8.914  11.574  1.00 35.02           O
ATOM   1236  ND2 ASN A 168      29.989   9.473  10.368  1.00 31.39           N
ATOM   1237  N   TRP A 169      29.284  11.884  13.518  1.00 33.38           N
ATOM   1238  CA  TRP A 169      29.200  13.279  13.107  1.00 33.28           C
ATOM   1239  C   TRP A 169      29.711  14.237  14.149  1.00 33.33           C
ATOM   1240  O   TRP A 169      30.406  15.188  13.834  1.00 33.43           O
ATOM   1241  CB  TRP A 169      27.756  13.673  12.765  1.00 33.43           C
ATOM   1242  CG  TRP A 169      27.618  15.134  12.412  1.00 33.11           C
ATOM   1243  CD1 TRP A 169      27.814  15.698  11.191  1.00 33.49           C
ATOM   1244  CD2 TRP A 169      27.293  16.205  13.294  1.00 32.94           C
ATOM   1245  NE1 TRP A 169      27.629  17.056  11.251  1.00 33.21           N
ATOM   1246  CE2 TRP A 169      27.306  17.397  12.533  1.00 33.42           C
ATOM   1247  CE3 TRP A 169      26.994  16.284  14.655  1.00 33.15           C
ATOM   1248  CZ2 TRP A 169      27.026  18.648  13.081  1.00 33.66           C
ATOM   1249  CZ3 TRP A 169      26.719  17.526  15.204  1.00 34.02           C
ATOM   1250  CH2 TRP A 169      26.733  18.695  14.413  1.00 34.21           C
ATOM   1251  N   ILE A 170      29.369  14.021  15.398  1.00 33.54           N
ATOM   1252  CA  ILE A 170      29.739  15.024  16.368  1.00 33.92           C
ATOM   1253  C   ILE A 170      31.225  14.935  16.713  1.00 34.07           C
ATOM   1254  O   ILE A 170      31.855  15.939  16.988  1.00 34.23           O
ATOM   1255  CB  ILE A 170      28.832  14.947  17.591  1.00 33.84           C
ATOM   1256  CG1 ILE A 170      28.803  16.288  18.306  1.00 34.22           C
ATOM   1257  CG2 ILE A 170      29.295  13.858  18.499  1.00 34.45           C
ATOM   1258  CD1 ILE A 170      27.869  16.309  19.478  1.00 34.73           C
ATOM   1259  N   ASN A 171      31.801  13.743  16.650  1.00 34.41           N
ATOM   1260  CA  ASN A 171      33.222  13.593  16.950  1.00 34.46           C
ATOM   1261  C   ASN A 171      34.055  14.322  15.918  1.00 34.56           C
ATOM   1262  O   ASN A 171      35.055  14.949  16.260  1.00 34.66           O
ATOM   1263  CB  ASN A 171      33.632  12.116  16.996  1.00 34.47           C
ATOM   1264  CG  ASN A 171      32.969  11.356  18.128  1.00 33.99           C
ATOM   1265  OD1 ASN A 171      32.391  11.951  19.031  1.00 35.35           O
ATOM   1266  ND2 ASN A 171      33.040  10.036  18.077  1.00 32.53           N
ATOM   1267  N   LYS A 172      33.652  14.217  14.654  1.00 34.75           N
ATOM   1268  CA  LYS A 172      34.337  14.917  13.584  1.00 35.18           C
ATOM   1269  C   LYS A 172      34.261  16.415  13.907  1.00 35.29           C
ATOM   1270  O   LYS A 172      35.248  17.133  13.800  1.00 34.89           O
ATOM   1271  CB  LYS A 172      33.711  14.600  12.216  1.00 35.26           C
ATOM   1272  CG  LYS A 172      34.200  13.299  11.587  1.00 36.55           C
ATOM   1273  CD  LYS A 172      33.873  13.158  10.090  1.00 38.20           C
ATOM   1274  CE  LYS A 172      34.512  11.872   9.537  1.00 39.82           C
ATOM   1275  NZ  LYS A 172      34.369  11.661   8.050  1.00 41.20           N
ATOM   1276  N   GLN A 173      33.093  16.875  14.339  1.00 35.70           N
ATOM   1277  CA  GLN A 173      32.931  18.272  14.699  1.00 36.20           C
ATOM   1278  C   GLN A 173      33.929  18.633  15.771  1.00 36.47           C
ATOM   1279  O   GLN A 173      34.605  19.656  15.686  1.00 36.97           O
ATOM   1280  CB  GLN A 173      31.534  18.555  15.231  1.00 36.19           C
ATOM   1281  CG  GLN A 173      30.473  18.637  14.167  1.00 36.97           C
ATOM   1282  CD  GLN A 173      30.765  19.720  13.157  1.00 37.19           C
ATOM   1283  OE1 GLN A 173      31.198  20.808  13.531  1.00 38.68           O
ATOM   1284  NE2 GLN A 173      30.551  19.425  11.879  1.00 35.94           N
ATOM   1285  N   GLN A 174      34.000  17.806  16.802  1.00 36.38           N
ATOM   1286  CA  GLN A 174      34.945  18.041  17.866  1.00 36.42           C
ATOM   1287  C   GLN A 174      36.360  18.102  17.283  1.00 36.56           C
ATOM   1288  O   GLN A 174      37.161  18.945  17.672  1.00 36.42           O
ATOM   1289  CB  GLN A 174      34.815  16.937  18.912  1.00 36.33           C
ATOM   1290  CG  GLN A 174      35.896  16.908  19.963  1.00 36.13           C
ATOM   1291  CD  GLN A 174      35.785  15.676  20.815  1.00 36.16           C
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ATOM   1292  OE1 GLN A 174      35.415  14.613  20.314  1.00 37.84           O
ATOM   1293  NE2 GLN A 174      36.082  15.803  22.103  1.00 34.98           N
ATOM   1294  N   GLY A 175      36.649  17.231  16.322  1.00 36.76           N
ATOM   1295  CA  GLY A 175      37.976  17.158  15.750  1.00 36.97           C
ATOM   1296  C   GLY A 175      38.302  18.356  14.892  1.00 37.21           C
ATOM   1297  O   GLY A 175      39.336  18.993  15.070  1.00 37.38           O
ATOM   1298  N   LYS A 176      37.406  18.682  13.971  1.00 37.44           N
ATOM   1299  CA  LYS A 176      37.634  19.793  13.064  1.00 37.56           C
ATOM   1300  C   LYS A 176      37.898  21.090  13.822  1.00 37.47           C
ATOM   1301  O   LYS A 176      38.713  21.907  13.400  1.00 37.47           O
ATOM   1302  CB  LYS A 176      36.423  20.014  12.161  1.00 37.71           C
ATOM   1303  CG  LYS A 176      36.134  18.905  11.163  1.00 38.70           C
ATOM   1304  CD  LYS A 176      34.960  19.284  10.279  1.00 39.76           C
ATOM   1305  CE  LYS A 176      34.064  18.092  10.037  1.00 41.48           C
ATOM   1306  NZ  LYS A 176      32.663  18.481   9.690  1.00 43.43           N
ATOM   1307  N   ARG A 177      37.212  21.283  14.938  1.00 37.10           N
ATOM   1308  CA  ARG A 177      37.325  22.544  15.643  1.00 37.08           C
ATOM   1309  C   ARG A 177      38.352  22.495  16.763  1.00 36.85           C
ATOM   1310  O   ARG A 177      38.445  23.420  17.564  1.00 36.21           O
ATOM   1311  CB  ARG A 177      35.980  22.969  16.228  1.00 37.21           C
ATOM   1312  CG  ARG A 177      34.807  22.773  15.326  1.00 37.50           C
ATOM   1313  CD  ARG A 177      34.802  23.591  14.053  1.00 38.49           C
ATOM   1314  NE  ARG A 177      33.750  23.066  13.185  1.00 39.56           N
ATOM   1315  CZ  ARG A 177      33.884  22.803  11.891  1.00 41.17           C
ATOM   1316  NH1 ARG A 177      35.026  23.050  11.254  1.00 41.34           N
ATOM   1317  NH2 ARG A 177      32.855  22.304  11.219  1.00 41.89           N
ATOM   1318  N   GLY A 178      39.088  21.401  16.859  1.00 36.70           N
ATOM   1319  CA  GLY A 178      40.131  21.337  17.854  1.00 36.74           C
ATOM   1320  C   GLY A 178      39.592  21.509  19.249  1.00 36.76           C
ATOM   1321  O   GLY A 178      40.340  21.817  20.171  1.00 37.18           O
ATOM   1322  N   TRP A 179      38.293  21.331  19.420  1.00 36.75           N
ATOM   1323  CA  TRP A 179      37.722  21.439  20.745  1.00 36.66           C
ATOM   1324  C   TRP A 179      38.309  20.400  21.679  1.00 36.60           C
ATOM   1325  O   TRP A 179      38.980  19.451  21.260  1.00 35.99           O
ATOM   1326  CB  TRP A 179      36.222  21.216  20.708  1.00 36.79           C
ATOM   1327  CG  TRP A 179      35.454  22.258  20.038  1.00 36.51           C
ATOM   1328  CD1 TRP A 179      35.889  23.470  19.620  1.00 36.67           C
ATOM   1329  CD2 TRP A 179      34.081  22.180  19.692  1.00 37.40           C
ATOM   1330  NE1 TRP A 179      34.860  24.168  19.035  1.00 36.91           N
ATOM   1331  CE2 TRP A 179      33.735  23.390  19.062  1.00 37.43           C
ATOM   1332  CE3 TRP A 179      33.099  21.198  19.840  1.00 36.64           C
ATOM   1333  CZ2 TRP A 179      32.456  23.641  18.583  1.00 36.83           C
ATOM   1334  CZ3 TRP A 179      31.840  21.450  19.365  1.00 36.84           C
ATOM   1335  CH2 TRP A 179      31.524  22.661  18.744  1.00 36.02           C
ATOM   1336  N   GLY A 180      38.022  20.595  22.958  1.00 36.66           N
ATOM   1337  CA  GLY A 180      38.444  19.681  23.992  1.00 36.96           C
ATOM   1338  C   GLY A 180      37.456  18.548  24.131  1.00 37.25           C
ATOM   1339  O   GLY A 180      36.698  18.285  23.204  1.00 37.69           O
ATOM   1340  N   GLN A 181      37.445  17.891  25.288  1.00 37.46           N
ATOM   1341  CA  GLN A 181      36.581  16.734  25.507  1.00 37.81           C
ATOM   1342  C   GLN A 181      35.136  17.088  25.802  1.00 37.40           C
ATOM   1343  O   GLN A 181      34.825  18.177  26.273  1.00 37.59           O
ATOM   1344  CB  GLN A 181      37.082  15.881  26.680  1.00 38.18           C
ATOM   1345  CG  GLN A 181      36.684  16.433  28.065  1.00 40.32           C
ATOM   1346  CD  GLN A 181      36.956  15.470  29.231  1.00 43.44           C
ATOM   1347  OE1 GLN A 181      38.004  14.802  29.284  1.00 44.84           O
ATOM   1348  NE2 GLN A 181      36.007  15.406  30.173  1.00 44.80           N
ATOM   1349  N   LEU A 182      34.266  16.130  25.510  1.00 37.00           N
ATOM   1350  CA  LEU A 182      32.866  16.181  25.878  1.00 36.47           C
ATOM   1351  C   LEU A 182      32.856  16.224  27.385  1.00 35.97           C
ATOM   1352  O   LEU A 182      33.345  15.298  28.009  1.00 35.98           O
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ATOM   1353  CB  LEU A 182      32.208  14.865  25.468  1.00 36.38           C
ATOM   1354  CG  LEU A 182      30.691  14.707  25.336  1.00 36.76           C
ATOM   1355  CD1 LEU A 182      30.339  13.254  25.433  1.00 36.70           C
ATOM   1356  CD2 LEU A 182      29.917  15.417  26.376  1.00 37.66           C
ATOM   1357  N   THR A 183      32.337  17.270  28.005  1.00 35.50           N
ATOM   1358  CA  THR A 183      32.310  17.230  29.457  1.00 35.07           C
ATOM   1359  C   THR A 183      31.008  16.669  29.929  1.00 34.39           C
ATOM   1360  O   THR A 183      30.944  16.097  31.000  1.00 34.13           O
ATOM   1361  CB  THR A 183      32.528  18.599  30.105  1.00 35.07           C
ATOM   1362  OG1 THR A 183      31.402  19.444  29.883  1.00 35.21           O
ATOM   1363  CG2 THR A 183      33.652  19.310  29.453  1.00 35.76           C
ATOM   1364  N   SER A 184      29.947  16.848  29.163  1.00 33.83           N
ATOM   1365  CA  SER A 184      28.710  16.288  29.626  1.00 33.19           C
ATOM   1366  C   SER A 184      27.563  16.459  28.684  1.00 32.72           C
ATOM   1367  O   SER A 184      27.643  17.172  27.699  1.00 32.59           O
ATOM   1368  CB  SER A 184      28.363  16.954  30.949  1.00 33.18           C
ATOM   1369  OG  SER A 184      28.349  18.347  30.788  1.00 31.82           O
ATOM   1370  N   ASN A 185      26.484  15.776  29.013  1.00 32.44           N
ATOM   1371  CA  ASN A 185      25.259  15.893  28.277  1.00 32.59           C
ATOM   1372  C   ASN A 185      24.218  16.117  29.319  1.00 33.00           C
ATOM   1373  O   ASN A 185      24.027  15.285  30.184  1.00 32.72           O
ATOM   1374  CB  ASN A 185      24.917  14.619  27.520  1.00 32.46           C
ATOM   1375  CG  ASN A 185      25.850  14.351  26.369  1.00 31.69           C
ATOM   1376  OD1 ASN A 185      26.661  13.436  26.434  1.00 32.60           O
ATOM   1377  ND2 ASN A 185      25.725  15.121  25.297  1.00 29.86           N
ATOM   1378  N   LEU A 186      23.549  17.252  29.258  1.00 33.80           N
ATOM   1379  CA  LEU A 186      22.537  17.536  30.241  1.00 34.36           C
ATOM   1380  C   LEU A 186      21.199  17.117  29.684  1.00 34.78           C
ATOM   1381  O   LEU A 186      20.903  17.380  28.512  1.00 35.02           O
ATOM   1382  CB  LEU A 186      22.500  19.029  30.539  1.00 34.34           C
ATOM   1383  CG  LEU A 186      21.564  19.433  31.677  1.00 35.25           C
ATOM   1384  CD1 LEU A 186      22.122  18.827  32.930  1.00 35.58           C
ATOM   1385  CD2 LEU A 186      21.402  20.956  31.845  1.00 35.43           C
ATOM   1386  N   LEU A 187      20.393  16.456  30.507  1.00 34.95           N
ATOM   1387  CA  LEU A 187      19.022  16.189  30.120  1.00 35.27           C
ATOM   1388  C   LEU A 187      18.117  17.260  30.735  1.00 35.48           C
ATOM   1389  O   LEU A 187      18.105  17.449  31.951  1.00 35.40           O
ATOM   1390  CB  LEU A 187      18.593  14.805  30.563  1.00 35.33           C
ATOM   1391  CG  LEU A 187      17.105  14.481  30.399  1.00 36.09           C
ATOM   1392  CD1 LEU A 187      16.624  14.525  28.969  1.00 36.40           C
ATOM   1393  CD2 LEU A 187      16.850  13.114  30.940  1.00 36.96           C
ATOM   1394  N   LEU A 188      17.380  17.977  29.889  1.00 35.70           N
ATOM   1395  CA  LEU A 188      16.466  19.005  30.362  1.00 35.89           C
ATOM   1396  C   LEU A 188      15.047  18.668  29.972  1.00 36.32           C
ATOM   1397  O   LEU A 188      14.738  18.548  28.792  1.00 36.89           O
ATOM   1398  CB  LEU A 188      16.795  20.362  29.771  1.00 35.79           C
ATOM   1399  CG  LEU A 188      18.210  20.889  29.937  1.00 35.66           C
ATOM   1400  CD1 LEU A 188      18.976  20.745  28.668  1.00 36.04           C
ATOM   1401  CD2 LEU A 188      18.125  22.328  30.284  1.00 35.23           C
ATOM   1402  N   ILE A 189      14.184  18.514  30.967  1.00 36.45           N
ATOM   1403  CA  ILE A 189      12.782  18.254  30.720  1.00 36.25           C
ATOM   1404  C   ILE A 189      12.105  19.353  31.472  1.00 35.88           C
ATOM   1405  O   ILE A 189      12.388  19.542  32.651  1.00 35.75           O
ATOM   1406  CB  ILE A 189      12.368  16.916  31.274  1.00 36.47           C
ATOM   1407  CG1 ILE A 189      13.126  15.813  30.549  1.00 36.63           C
ATOM   1408  CG2 ILE A 189      10.865  16.748  31.143  1.00 36.55           C
ATOM   1409  CD1 ILE A 189      12.884  14.440  31.129  1.00 36.11           C
ATOM   1410  N   GLY A 190      11.221  20.071  30.789  1.00 35.53           N
ATOM   1411  CA  GLY A 190      10.614  21.257  31.344  1.00 35.37           C
ATOM   1412  C   GLY A 190       9.184  21.420  30.921  1.00 35.23           C
ATOM   1413  O   GLY A 190       8.748  20.857  29.930  1.00 35.26           O
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ATOM   1414  N   MET A 191      8.458  22.208  31.696  1.00 35.18           N
ATOM   1415  CA  MET A 191      7.063  22.463  31.447  1.00 35.16           C
ATOM   1416  C   MET A 191      6.916  23.584  30.446  1.00 35.00           C
ATOM   1417  O   MET A 191      7.795  24.426  30.316  1.00 35.17           O
ATOM   1418  CB  MET A 191      6.379  22.849  32.750  1.00 35.13           C
ATOM   1419  CG  MET A 191      6.277  21.691  33.710  1.00 35.63           C
ATOM   1420  SD  MET A 191      5.756  22.150  35.360  1.00 35.65           S
ATOM   1421  CE  MET A 191      4.222  22.827  35.017  1.00 36.16           C
ATOM   1422  N   GLU A 192      5.804  23.573  29.727  1.00 34.83           N
ATOM   1423  CA  GLU A 192      5.492  24.626  28.791  1.00 34.74           C
ATOM   1424  C   GLU A 192      5.585  25.955  29.511  1.00 34.72           C
ATOM   1425  O   GLU A 192      5.184  26.067  30.674  1.00 34.67           O
ATOM   1426  CB  GLU A 192      4.085  24.447  28.264  1.00 34.75           C
ATOM   1427  CG  GLU A 192      3.029  24.525  29.348  1.00 35.09           C
ATOM   1428  CD  GLU A 192      1.669  24.117  28.842  1.00 34.97           C
ATOM   1429  OE1 GLU A 192      1.609  23.503  27.756  1.00 33.58           O
ATOM   1430  OE2 GLU A 192      0.672  24.422  29.530  1.00 35.72           O
ATOM   1431  N   GLY A 193      6.121  26.953  28.818  1.00 34.53           N
ATOM   1432  CA  GLY A 193      6.265  28.279  29.378  1.00 34.63           C
ATOM   1433  C   GLY A 193      7.528  28.542  30.180  1.00 34.49           C
ATOM   1434  O   GLY A 193      7.864  29.694  30.434  1.00 34.57           O
ATOM   1435  N   ASN A 194      8.224  27.493  30.594  1.00 34.27           N
ATOM   1436  CA  ASN A 194      9.441  27.672  31.367  1.00 34.06           C
ATOM   1437  C   ASN A 194     10.466  28.492  30.609  1.00 33.93           C
ATOM   1438  O   ASN A 194     10.552  28.415  29.392  1.00 33.84           O
ATOM   1439  CB  ASN A 194     10.051  26.316  31.721  1.00 33.99           C
ATOM   1440  CG  ASN A 194      9.314  25.625  32.836  1.00 33.19           C
ATOM   1441  OD1 ASN A 194      8.257  26.081  33.265  1.00 33.07           O
ATOM   1442  ND2 ASN A 194      9.869  24.528  33.323  1.00 31.93           N
ATOM   1443  N   VAL A 195     11.243  29.285  31.332  1.00 33.86           N
ATOM   1444  CA  VAL A 195     12.288  30.069  30.707  1.00 33.70           C
ATOM   1445  C   VAL A 195     13.621  29.969  31.396  1.00 33.38           C
ATOM   1446  O   VAL A 195     13.721  30.115  32.601  1.00 33.75           O
ATOM   1447  CB  VAL A 195     11.964  31.552  30.779  1.00 33.96           C
ATOM   1448  CG1 VAL A 195     13.151  32.389  30.253  1.00 34.32           C
ATOM   1449  CG2 VAL A 195     10.693  31.854  30.032  1.00 34.15           C
ATOM   1450  N   THR A 196     14.666  29.764  30.621  1.00 33.04           N
ATOM   1451  CA  THR A 196     15.991  29.883  31.161  1.00 32.60           C
ATOM   1452  C   THR A 196     16.438  31.256  30.723  1.00 32.21           C
ATOM   1453  O   THR A 196     16.584  31.500  29.530  1.00 31.64           O
ATOM   1454  CB  THR A 196     16.887  28.836  30.586  1.00 32.68           C
ATOM   1455  OG1 THR A 196     16.466  27.543  31.048  1.00 33.09           O
ATOM   1456  CG2 THR A 196     18.281  29.003  31.124  1.00 32.63           C
ATOM   1457  N   PRO A 197     16.585  32.177  31.672  1.00 31.97           N
ATOM   1458  CA  PRO A 197     17.000  33.530  31.350  1.00 31.74           C
ATOM   1459  C   PRO A 197     18.385  33.564  30.816  1.00 31.92           C
ATOM   1460  O   PRO A 197     19.215  32.717  31.129  1.00 32.52           O
ATOM   1461  CB  PRO A 197     16.950  34.234  32.682  1.00 31.38           C
ATOM   1462  CG  PRO A 197     16.056  33.508  33.418  1.00 31.84           C
ATOM   1463  CD  PRO A 197     16.305  32.055  33.107  1.00 32.08           C
ATOM   1464  N   ALA A 198     18.615  34.592  30.024  1.00 32.06           N
ATOM   1465  CA  ALA A 198     19.846  34.787  29.311  1.00 32.28           C
ATOM   1466  C   ALA A 198     21.101  34.690  30.162  1.00 32.42           C
ATOM   1467  O   ALA A 198     21.213  35.305  31.220  1.00 32.03           O
ATOM   1468  CB  ALA A 198     19.798  36.131  28.625  1.00 32.42           C
ATOM   1469  N   HIS A 199     22.064  33.953  29.630  1.00 32.77           N
ATOM   1470  CA  HIS A 199     23.339  33.737  30.271  1.00 33.31           C
ATOM   1471  C   HIS A 199     24.308  33.252  29.220  1.00 33.76           C
ATOM   1472  O   HIS A 199     23.902  33.013  28.084  1.00 34.10           O
ATOM   1473  CB  HIS A 199     23.194  32.622  31.275  1.00 33.24           C
ATOM   1474  CG  HIS A 199     22.879  31.311  30.639  1.00 32.59           C
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ATOM   1475  ND1 HIS A 199      21.602  30.958  30.269  1.00 31.40           N
ATOM   1476  CD2 HIS A 199      23.679  30.292  30.253  1.00 32.85           C
ATOM   1477  CE1 HIS A 199      21.624  29.761  29.714  1.00 32.37           C
ATOM   1478  NE2 HIS A 199      22.871  29.330  29.698  1.00 32.78           N
ATOM   1479  N   TYR A 200      25.575  33.093  29.601  1.00 34.35           N
ATOM   1480  CA  TYR A 200      26.580  32.502  28.712  1.00 34.92           C
ATOM   1481  C   TYR A 200      27.256  31.350  29.431  1.00 35.15           C
ATOM   1482  O   TYR A 200      27.285  31.318  30.661  1.00 35.76           O
ATOM   1483  CB  TYR A 200      27.599  33.510  28.175  1.00 34.90           C
ATOM   1484  CG  TYR A 200      28.586  34.096  29.156  1.00 34.89           C
ATOM   1485  CD1 TYR A 200      29.825  33.519  29.359  1.00 33.02           C
ATOM   1486  CD2 TYR A 200      28.307  35.292  29.802  1.00 36.04           C
ATOM   1487  CE1 TYR A 200      30.731  34.079  30.224  1.00 33.25           C
ATOM   1488  CE2 TYR A 200      29.200  35.857  30.664  1.00 35.45           C
ATOM   1489  CZ  TYR A 200      30.410  35.253  30.882  1.00 34.40           C
ATOM   1490  OH  TYR A 200      31.301  35.855  31.739  1.00 32.62           O
ATOM   1491  N   ASP A 201      27.747  30.387  28.654  1.00 35.04           N
ATOM   1492  CA  ASP A 201      28.386  29.189  29.182  1.00 34.82           C
ATOM   1493  C   ASP A 201      29.818  29.220  28.652  1.00 34.87           C
ATOM   1494  O   ASP A 201      30.047  29.734  27.588  1.00 34.81           O
ATOM   1495  CB  ASP A 201      27.636  27.925  28.727  1.00 34.49           C
ATOM   1496  CG  ASP A 201      26.212  27.854  29.256  1.00 34.63           C
ATOM   1497  OD1 ASP A 201      26.046  27.953  30.480  1.00 33.52           O
ATOM   1498  OD2 ASP A 201      25.191  27.680  28.533  1.00 36.84           O
ATOM   1499  N   GLU A 202      30.795  28.727  29.399  1.00 35.74           N
ATOM   1500  CA  GLU A 202      32.176  28.699  28.899  1.00 36.38           C
ATOM   1501  C   GLU A 202      32.528  27.441  28.126  1.00 36.30           C
ATOM   1502  O   GLU A 202      33.679  27.019  28.126  1.00 37.04           O
ATOM   1503  CB  GLU A 202      33.172  28.830  30.048  1.00 36.61           C
ATOM   1504  CG  GLU A 202      33.100  30.185  30.725  1.00 37.81           C
ATOM   1505  CD  GLU A 202      33.960  30.276  31.949  1.00 38.93           C
ATOM   1506  OE1 GLU A 202      33.525  29.783  33.020  1.00 39.85           O
ATOM   1507  OE2 GLU A 202      35.055  30.858  31.832  1.00 40.19           O
ATOM   1508  N   GLN A 203      31.556  26.840  27.462  1.00 35.68           N
ATOM   1509  CA  GLN A 203      31.815  25.643  26.718  1.00 35.24           C
ATOM   1510  C   GLN A 203      31.107  25.754  25.406  1.00 34.57           C
ATOM   1511  O   GLN A 203      30.218  26.586  25.256  1.00 34.62           O
ATOM   1512  CB  GLN A 203      31.317  24.446  27.514  1.00 35.59           C
ATOM   1513  CG  GLN A 203      32.184  24.236  28.734  1.00 37.42           C
ATOM   1514  CD  GLN A 203      32.234  22.819  29.233  1.00 38.70           C
ATOM   1515  OE1 GLN A 203      32.228  21.860  28.458  1.00 39.80           O
ATOM   1516  NE2 GLN A 203      32.326  22.680  30.541  1.00 41.01           N
ATOM   1517  N   GLN A 204      31.524  24.939  24.443  1.00 33.68           N
ATOM   1518  CA  GLN A 204      30.873  24.899  23.165  1.00 32.97           C
ATOM   1519  C   GLN A 204      29.714  23.959  23.373  1.00 32.67           C
ATOM   1520  O   GLN A 204      29.838  22.982  24.082  1.00 32.33           O
ATOM   1521  CB  GLN A 204      31.793  24.352  22.093  1.00 32.85           C
ATOM   1522  CG  GLN A 204      33.042  25.165  21.819  1.00 32.50           C
ATOM   1523  CD  GLN A 204      32.786  26.454  21.057  1.00 30.59           C
ATOM   1524  OE1 GLN A 204      31.656  26.830  20.848  1.00 31.27           O
ATOM   1525  NE2 GLN A 204      33.843  27.132  20.664  1.00 29.18           N
ATOM   1526  N   ASN A 205      28.583  24.247  22.755  1.00 32.81           N
ATOM   1527  CA  ASN A 205      27.393  23.446  22.980  1.00 32.85           C
ATOM   1528  C   ASN A 205      26.594  23.059  21.733  1.00 32.80           C
ATOM   1529  O   ASN A 205      26.147  23.921  20.968  1.00 32.72           O
ATOM   1530  CB  ASN A 205      26.484  24.246  23.919  1.00 32.83           C
ATOM   1531  CG  ASN A 205      25.178  23.566  24.205  1.00 32.43           C
ATOM   1532  OD1 ASN A 205      24.914  22.465  23.732  1.00 32.78           O
ATOM   1533  ND2 ASN A 205      24.339  24.228  24.993  1.00 31.52           N
ATOM   1534  N   PHE A 206      26.427  21.763  21.515  1.00 32.36           N
ATOM   1535  CA  PHE A 206      25.454  21.326  20.541  1.00 32.02           C
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ATOM   1536  C   PHE A 206      24.167  20.977  21.301  1.00 31.59           C
ATOM   1537  O   PHE A 206      24.144  20.067  22.096  1.00 31.13           O
ATOM   1538  CB  PHE A 206      25.972  20.159  19.754  1.00 32.17           C
ATOM   1539  CG  PHE A 206      26.844  20.554  18.639  1.00 32.42           C
ATOM   1540  CD1 PHE A 206      26.364  21.354  17.630  1.00 33.16           C
ATOM   1541  CD2 PHE A 206      28.149  20.132  18.600  1.00 33.19           C
ATOM   1542  CE1 PHE A 206      27.174  21.721  16.600  1.00 33.34           C
ATOM   1543  CE2 PHE A 206      28.963  20.487  17.580  1.00 32.88           C
ATOM   1544  CZ  PHE A 206      28.485  21.279  16.574  1.00 33.50           C
ATOM   1545  N   PHE A 207      23.104  21.717  21.012  1.00 31.65           N
ATOM   1546  CA  PHE A 207      21.829  21.671  21.726  1.00 31.71           C
ATOM   1547  C   PHE A 207      20.822  20.825  20.924  1.00 31.35           C
ATOM   1548  O   PHE A 207      20.289  21.292  19.930  1.00 30.81           O
ATOM   1549  CB  PHE A 207      21.391  23.148  21.883  1.00 31.56           C
ATOM   1550  CG  PHE A 207      20.118  23.404  22.683  1.00 31.43           C
ATOM   1551  CD1 PHE A 207      18.926  23.676  22.036  1.00 32.30           C
ATOM   1552  CD2 PHE A 207      20.150  23.519  24.058  1.00 31.29           C
ATOM   1553  CE1 PHE A 207      17.781  23.982  22.748  1.00 32.37           C
ATOM   1554  CE2 PHE A 207      19.006  23.832  24.776  1.00 31.14           C
ATOM   1555  CZ  PHE A 207      17.828  24.062  24.122  1.00 32.27           C
ATOM   1556  N   ALA A 208      20.554  19.593  21.368  1.00 31.31           N
ATOM   1557  CA  ALA A 208      19.685  18.672  20.611  1.00 31.33           C
ATOM   1558  C   ALA A 208      18.264  18.543  21.138  1.00 31.59           C
ATOM   1559  O   ALA A 208      18.016  17.860  22.133  1.00 31.13           O
ATOM   1560  CB  ALA A 208      20.293  17.334  20.537  1.00 30.98           C
ATOM   1561  N   GLN A 209      17.340  19.169  20.409  1.00 32.00           N
ATOM   1562  CA  GLN A 209      15.935  19.183  20.751  1.00 32.37           C
ATOM   1563  C   GLN A 209      15.288  17.867  20.358  1.00 32.76           C
ATOM   1564  O   GLN A 209      15.492  17.360  19.247  1.00 32.19           O
ATOM   1565  CB  GLN A 209      15.245  20.332  20.031  1.00 32.55           C
ATOM   1566  CG  GLN A 209      13.802  20.589  20.470  1.00 32.44           C
ATOM   1567  CD  GLN A 209      13.689  20.978  21.925  1.00 32.27           C
ATOM   1568  OE1 GLN A 209      14.699  21.254  22.587  1.00 31.73           O
ATOM   1569  NE2 GLN A 209      12.457  21.000  22.436  1.00 32.63           N
ATOM   1570  N   ILE A 210      14.467  17.360  21.272  1.00 33.20           N
ATOM   1571  CA  ILE A 210      13.907  16.030  21.165  1.00 33.55           C
ATOM   1572  C   ILE A 210      12.399  15.998  21.195  1.00 33.37           C
ATOM   1573  O   ILE A 210      11.788  15.337  20.369  1.00 33.25           O
ATOM   1574  CB  ILE A 210      14.456  15.210  22.302  1.00 33.79           C
ATOM   1575  CG1 ILE A 210      15.900  14.837  21.980  1.00 34.71           C
ATOM   1576  CG2 ILE A 210      13.604  13.982  22.528  1.00 33.99           C
ATOM   1577  CD1 ILE A 210      16.679  14.375  23.191  1.00 35.48           C
ATOM   1578  N   LYS A 211      11.804  16.688  22.156  1.00 33.27           N
ATOM   1579  CA  LYS A 211      10.365  16.739  22.263  1.00 33.48           C
ATOM   1580  C   LYS A 211       9.960  18.146  22.559  1.00 33.68           C
ATOM   1581  O   LYS A 211      10.545  18.789  23.407  1.00 34.10           O
ATOM   1582  CB  LYS A 211       9.867  15.875  23.405  1.00 33.57           C
ATOM   1583  CG  LYS A 211       8.355  15.708  23.409  1.00 34.06           C
ATOM   1584  CD  LYS A 211       7.840  15.250  24.752  1.00 34.79           C
ATOM   1585  CE  LYS A 211       6.635  14.324  24.635  1.00 35.65           C
ATOM   1586  NZ  LYS A 211       5.876  14.398  23.369  1.00 36.67           N
ATOM   1587  N   GLY A 212       8.938  18.626  21.876  1.00 34.06           N
ATOM   1588  CA  GLY A 212       8.460  19.969  22.103  1.00 34.09           C
ATOM   1589  C   GLY A 212       9.270  20.966  21.314  1.00 34.27           C
ATOM   1590  O   GLY A 212      10.156  20.599  20.532  1.00 34.27           O
ATOM   1591  N   TYR A 213       8.955  22.237  21.523  1.00 34.23           N
ATOM   1592  CA  TYR A 213       9.640  23.311  20.843  1.00 34.12           C
ATOM   1593  C   TYR A 213      10.216  24.318  21.824  1.00 33.81           C
ATOM   1594  O   TYR A 213       9.602  24.652  22.835  1.00 33.09           O
ATOM   1595  CB  TYR A 213       8.665  23.994  19.899  1.00 34.42           C
ATOM   1596  CG  TYR A 213       8.257  23.091  18.789  1.00 35.40           C
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ATOM   1597  CD1 TYR A 213       7.228  22.163  18.955  1.00 36.80           C
ATOM   1598  CD2 TYR A 213       8.929  23.122  17.586  1.00 36.00           C
ATOM   1599  CE1 TYR A 213       6.873  21.323  17.944  1.00 36.82           C
ATOM   1600  CE2 TYR A 213       8.579  22.292  16.567  1.00 37.06           C
ATOM   1601  CZ  TYR A 213       7.560  21.390  16.743  1.00 37.82           C
ATOM   1602  OH  TYR A 213       7.242  20.568  15.688  1.00 40.76           O
ATOM   1603  N   LYS A 214      11.410  24.804  21.517  1.00 33.91           N
ATOM   1604  CA  LYS A 214      12.046  25.809  22.359  1.00 33.87           C
ATOM   1605  C   LYS A 214      12.479  27.033  21.551  1.00 33.71           C
ATOM   1606  O   LYS A 214      13.173  26.918  20.538  1.00 33.58           O
ATOM   1607  CB  LYS A 214      13.237  25.208  23.101  1.00 33.64           C
ATOM   1608  CG  LYS A 214      12.881  24.443  24.364  1.00 33.56           C
ATOM   1609  CD  LYS A 214      14.126  23.861  24.973  1.00 33.29           C
ATOM   1610  CE  LYS A 214      14.001  23.615  26.458  1.00 33.54           C
ATOM   1611  NZ  LYS A 214      15.346  23.419  27.130  1.00 32.27           N
ATOM   1612  N   ARG A 215      12.043  28.205  21.986  1.00 33.56           N
ATOM   1613  CA  ARG A 215      12.479  29.427  21.339  1.00 33.91           C
ATOM   1614  C   ARG A 215      13.816  29.800  21.944  1.00 33.54           C
ATOM   1615  O   ARG A 215      13.946  29.923  23.146  1.00 32.78           O
ATOM   1616  CB  ARG A 215      11.482  30.552  21.558  1.00 34.15           C
ATOM   1617  CG  ARG A 215      11.865  31.844  20.885  1.00 34.51           C
ATOM   1618  CD  ARG A 215      11.287  33.028  21.593  1.00 34.99           C
ATOM   1619  NE  ARG A 215      11.381  34.255  20.823  1.00 35.43           N
ATOM   1620  CZ  ARG A 215      10.688  35.346  21.103  1.00 35.27           C
ATOM   1621  NH1 ARG A 215       9.860  35.371  22.144  1.00 34.68           N
ATOM   1622  NH2 ARG A 215      10.829  36.415  20.344  1.00 35.16           N
ATOM   1623  N   CYS A 216      14.810  29.962  21.092  1.00 33.76           N
ATOM   1624  CA  CYS A 216      16.152  30.238  21.542  1.00 33.91           C
ATOM   1625  C   CYS A 216      16.555  31.613  21.068  1.00 34.31           C
ATOM   1626  O   CYS A 216      16.534  31.885  19.872  1.00 34.69           O
ATOM   1627  CB  CYS A 216      17.099  29.189  20.968  1.00 33.84           C
ATOM   1628  SG  CYS A 216      16.655  27.490  21.397  1.00 32.85           S
ATOM   1629  N   ILE A 217      16.886  32.494  22.004  1.00 34.57           N
ATOM   1630  CA  ILE A 217      17.335  33.830  21.648  1.00 34.82           C
ATOM   1631  C   ILE A 217      18.785  33.999  22.046  1.00 34.50           C
ATOM   1632  O   ILE A 217      19.136  33.839  23.213  1.00 34.30           O
ATOM   1633  CB  ILE A 217      16.475  34.890  22.324  1.00 35.07           C
ATOM   1634  CG1 ILE A 217      15.003  34.652  22.001  1.00 35.20           C
ATOM   1635  CG2 ILE A 217      16.881  36.259  21.844  1.00 35.38           C
ATOM   1636  CD1 ILE A 217      14.086  35.585  22.722  1.00 36.16           C
ATOM   1637  N   LEU A 218      19.620  34.315  21.060  1.00 34.32           N
ATOM   1638  CA  LEU A 218      21.052  34.443  21.277  1.00 34.44           C
ATOM   1639  C   LEU A 218      21.565  35.844  21.017  1.00 34.27           C
ATOM   1640  O   LEU A 218      21.074  36.561  20.148  1.00 34.59           O
ATOM   1641  CB  LEU A 218      21.818  33.476  20.365  1.00 34.57           C
ATOM   1642  CG  LEU A 218      21.953  32.036  20.844  1.00 34.62           C
ATOM   1643  CD1 LEU A 218      20.614  31.435  21.124  1.00 34.96           C
ATOM   1644  CD2 LEU A 218      22.638  31.235  19.789  1.00 35.31           C
ATOM   1645  N   PHE A 219      22.594  36.200  21.768  1.00 33.79           N
ATOM   1646  CA  PHE A 219      23.258  37.462  21.632  1.00 33.40           C
ATOM   1647  C   PHE A 219      24.730  37.155  21.617  1.00 33.29           C
ATOM   1648  O   PHE A 219      25.222  36.434  22.463  1.00 33.45           O
ATOM   1649  CB  PHE A 219      22.964  38.330  22.832  1.00 33.37           C
ATOM   1650  CG  PHE A 219      21.509  38.586  23.051  1.00 33.91           C
ATOM   1651  CD1 PHE A 219      20.852  39.607  22.379  1.00 33.73           C
ATOM   1652  CD2 PHE A 219      20.794  37.812  23.942  1.00 33.70           C
ATOM   1653  CE1 PHE A 219      19.512  39.832  22.600  1.00 33.52           C
ATOM   1654  CE2 PHE A 219      19.460  38.038  24.156  1.00 33.47           C
ATOM   1655  CZ  PHE A 219      18.818  39.045  23.486  1.00 33.23           C
ATOM   1656  N   PRO A 220      25.438  37.683  20.642  1.00 33.46           N
ATOM   1657  CA  PRO A 220      26.888  37.496  20.536  1.00 33.50           C
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ATOM   1658  C   PRO A 220      27.675  38.131  21.699  1.00 33.51           C
ATOM   1659  O   PRO A 220      27.185  39.049  22.363  1.00 33.18           O
ATOM   1660  CB  PRO A 220      27.246  38.169  19.211  1.00 33.51           C
ATOM   1661  CG  PRO A 220      25.977  38.683  18.629  1.00 33.41           C
ATOM   1662  CD  PRO A 220      24.869  38.462  19.544  1.00 33.33           C
ATOM   1663  N   PRO A 221      28.886  37.627  21.942  1.00 33.38           N
ATOM   1664  CA  PRO A 221      29.731  38.102  23.044  1.00 33.30           C
ATOM   1665  C   PRO A 221      29.966  39.581  23.081  1.00 33.55           C
ATOM   1666  O   PRO A 221      30.043  40.151  24.147  1.00 33.66           O
ATOM   1667  CB  PRO A 221      31.033  37.375  22.799  1.00 33.11           C
ATOM   1668  CG  PRO A 221      30.589  36.128  22.147  1.00 33.06           C
ATOM   1669  CD  PRO A 221      29.523  36.522  21.207  1.00 32.91           C
ATOM   1670  N   ASP A 222      30.009  40.217  21.933  1.00 34.30           N
ATOM   1671  CA  ASP A 222      30.277  41.628  21.904  1.00 34.71           C
ATOM   1672  C   ASP A 222      29.073  42.419  22.382  1.00 34.56           C
ATOM   1673  O   ASP A 222      29.048  43.634  22.241  1.00 34.68           O
ATOM   1674  CB  ASP A 222      30.679  42.055  20.502  1.00 34.79           C
ATOM   1675  CG  ASP A 222      29.508  42.228  19.608  1.00 36.26           C
ATOM   1676  OD1 ASP A 222      28.387  41.897  20.028  1.00 38.21           O
ATOM   1677  OD2 ASP A 222      29.601  42.692  18.462  1.00 40.87           O
ATOM   1678  N   GLN A 223      28.062  41.760  22.930  1.00 34.48           N
ATOM   1679  CA  GLN A 223      26.965  42.532  23.497  1.00 34.78           C
ATOM   1680  C   GLN A 223      27.031  42.541  25.011  1.00 34.33           C
ATOM   1681  O   GLN A 223      26.077  42.878  25.686  1.00 34.70           O
ATOM   1682  CB  GLN A 223      25.595  42.133  22.940  1.00 34.87           C
ATOM   1683  CG  GLN A 223      25.364  42.825  21.599  1.00 36.55           C
ATOM   1684  CD  GLN A 223      23.990  42.635  21.020  1.00 39.56           C
ATOM   1685  OE1 GLN A 223      22.986  42.824  21.701  1.00 42.40           O
ATOM   1686  NE2 GLN A 223      23.936  42.294  19.742  1.00 41.89           N
ATOM   1687  N   PHE A 224      28.198  42.219  25.534  1.00 34.13           N
ATOM   1688  CA  PHE A 224      28.437  42.270  26.965  1.00 34.17           C
ATOM   1689  C   PHE A 224      27.941  43.571  27.570  1.00 34.88           C
ATOM   1690  O   PHE A 224      27.310  43.549  28.622  1.00 35.50           O
ATOM   1691  CB  PHE A 224      29.932  42.159  27.224  1.00 33.66           C
ATOM   1692  CG  PHE A 224      30.305  42.027  28.661  1.00 32.69           C
ATOM   1693  CD1 PHE A 224      30.429  43.137  29.476  1.00 33.11           C
ATOM   1694  CD2 PHE A 224      30.609  40.790  29.191  1.00 31.85           C
ATOM   1695  CE1 PHE A 224      30.821  43.003  30.817  1.00 31.76           C
ATOM   1696  CE2 PHE A 224      30.993  40.661  30.498  1.00 31.29           C
ATOM   1697  CZ  PHE A 224      31.098  41.775  31.316  1.00 30.73           C
ATOM   1698  N   GLU A 225      28.235  44.706  26.930  1.00 35.46           N
ATOM   1699  CA  GLU A 225      27.852  45.994  27.492  1.00 35.85           C
ATOM   1700  C   GLU A 225      26.362  46.133  27.608  1.00 35.42           C
ATOM   1701  O   GLU A 225      25.873  46.955  28.386  1.00 35.16           O
ATOM   1702  CB  GLU A 225      28.401  47.175  26.688  1.00 36.59           C
ATOM   1703  CG  GLU A 225      29.892  47.377  26.917  1.00 39.78           C
ATOM   1704  CD  GLU A 225      30.357  48.822  27.125  1.00 43.65           C
ATOM   1705  OE1 GLU A 225      29.937  49.524  28.099  1.00 44.64           O
ATOM   1706  OE2 GLU A 225      31.224  49.234  26.319  1.00 47.74           O
ATOM   1707  N   CYS A 226      25.633  45.329  26.851  1.00 35.07           N
ATOM   1708  CA  CYS A 226      24.192  45.453  26.842  1.00 34.93           C
ATOM   1709  C   CYS A 226      23.473  44.498  27.770  1.00 34.91           C
ATOM   1710  O   CYS A 226      22.266  44.654  28.019  1.00 34.86           O
ATOM   1711  CB  CYS A 226      23.681  45.196  25.448  1.00 34.80           C
ATOM   1712  SG  CYS A 226      24.135  46.461  24.291  1.00 34.76           S
ATOM   1713  N   LEU A 227      24.191  43.521  28.296  1.00 34.47           N
ATOM   1714  CA  LEU A 227      23.509  42.483  29.025  1.00 34.57           C
ATOM   1715  C   LEU A 227      23.815  42.408  30.503  1.00 34.08           C
ATOM   1716  O   LEU A 227      23.122  41.725  31.235  1.00 33.57           O
ATOM   1717  CB  LEU A 227      23.739  41.162  28.313  1.00 34.97           C
ATOM   1718  CG  LEU A 227      22.883  41.127  27.047  1.00 36.04           C
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ATOM   1719  CD1 LEU A 227      23.454  40.177  26.043  1.00 37.99           C
ATOM   1720  CD2 LEU A 227      21.474  40.719  27.394  1.00 36.66           C
ATOM   1721  N   TYR A 228      24.866  43.104  30.917  1.00 34.23           N
ATOM   1722  CA  TYR A 228      25.172  43.334  32.329  1.00 34.02           C
ATOM   1723  C   TYR A 228      25.163  42.091  33.196  1.00 33.81           C
ATOM   1724  O   TYR A 228      24.294  41.900  34.041  1.00 33.87           O
ATOM   1725  CB  TYR A 228      24.183  44.345  32.897  1.00 33.73           C
ATOM   1726  CG  TYR A 228      24.153  45.658  32.166  1.00 33.50           C
ATOM   1727  CD1 TYR A 228      24.947  46.712  32.568  1.00 33.63           C
ATOM   1728  CD2 TYR A 228      23.312  45.853  31.086  1.00 35.03           C
ATOM   1729  CE1 TYR A 228      24.903  47.932  31.924  1.00 34.25           C
ATOM   1730  CE2 TYR A 228      23.268  47.066  30.419  1.00 35.62           C
ATOM   1731  CZ  TYR A 228      24.068  48.106  30.848  1.00 35.60           C
ATOM   1732  OH  TYR A 228      24.027  49.324  30.203  1.00 36.79           O
ATOM   1733  N   PRO A 229      26.170  41.263  33.027  1.00 33.75           N
ATOM   1734  CA  PRO A 229      26.255  40.032  33.791  1.00 33.73           C
ATOM   1735  C   PRO A 229      26.538  40.313  35.231  1.00 33.32           C
ATOM   1736  O   PRO A 229      27.228  41.263  35.530  1.00 33.73           O
ATOM   1737  CB  PRO A 229      27.449  39.319  33.169  1.00 33.87           C
ATOM   1738  CG  PRO A 229      28.264  40.366  32.543  1.00 33.66           C
ATOM   1739  CD  PRO A 229      27.334  41.457  32.156  1.00 34.15           C
ATOM   1740  N   TYR A 230      25.992  39.509  36.122  1.00 32.95           N
ATOM   1741  CA  TYR A 230      26.330  39.654  37.510  1.00 32.64           C
ATOM   1742  C   TYR A 230      27.836  39.534  37.651  1.00 32.59           C
ATOM   1743  O   TYR A 230      28.536  39.020  36.793  1.00 32.76           O
ATOM   1744  CB  TYR A 230      25.713  38.547  38.351  1.00 32.25           C
ATOM   1745  CG  TYR A 230      24.237  38.640  38.573  1.00 31.53           C
ATOM   1746  CD1 TYR A 230      23.346  38.125  37.641  1.00 31.07           C
ATOM   1747  CD2 TYR A 230      23.727  39.192  39.748  1.00 29.93           C
ATOM   1748  CE1 TYR A 230      21.996  38.185  37.859  1.00 31.19           C
ATOM   1749  CE2 TYR A 230      22.395  39.253  39.980  1.00 28.83           C
ATOM   1750  CZ  TYR A 230      21.523  38.755  39.040  1.00 31.04           C
ATOM   1751  OH  TYR A 230      20.165  38.816  39.272  1.00 32.40           O
ATOM   1752  N   PRO A 231      28.328  40.016  38.764  1.00 32.69           N
ATOM   1753  CA  PRO A 231      29.725  39.852  39.124  1.00 32.75           C
ATOM   1754  C   PRO A 231      30.159  38.384  39.159  1.00 32.72           C
ATOM   1755  O   PRO A 231      29.434  37.497  39.604  1.00 32.86           O
ATOM   1756  CB  PRO A 231      29.768  40.423  40.533  1.00 32.82           C
ATOM   1757  CG  PRO A 231      28.625  41.349  40.605  1.00 32.96           C
ATOM   1758  CD  PRO A 231      27.576  40.802  39.751  1.00 32.88           C
ATOM   1759  N   VAL A 232      31.387  38.151  38.740  1.00 32.40           N
ATOM   1760  CA  VAL A 232      31.938  36.825  38.680  1.00 32.10           C
ATOM   1761  C   VAL A 232      31.776  36.022  39.963  1.00 32.41           C
ATOM   1762  O   VAL A 232      31.546  34.826  39.906  1.00 32.96           O
ATOM   1763  CB  VAL A 232      33.422  36.918  38.332  1.00 32.04           C
ATOM   1764  CG1 VAL A 232      34.131  35.666  38.721  1.00 31.82           C
ATOM   1765  CG2 VAL A 232      33.601  37.221  36.851  1.00 31.85           C
ATOM   1766  N   HIS A 233      31.918  36.650  41.124  1.00 32.61           N
ATOM   1767  CA  HIS A 233      31.819  35.910  42.376  1.00 32.41           C
ATOM   1768  C   HIS A 233      30.383  35.727  42.874  1.00 32.27           C
ATOM   1769  O   HIS A 233      30.134  35.052  43.860  1.00 32.05           O
ATOM   1770  CB  HIS A 233      32.667  36.577  43.458  1.00 32.52           C
ATOM   1771  CG  HIS A 233      34.135  36.579  43.164  1.00 33.14           C
ATOM   1772  ND1 HIS A 233      34.787  37.672  42.631  1.00 34.57           N
ATOM   1773  CD2 HIS A 233      35.083  35.629  43.342  1.00 34.15           C
ATOM   1774  CE1 HIS A 233      36.071  37.398  42.497  1.00 34.40           C
ATOM   1775  NE2 HIS A 233      36.278  36.164  42.922  1.00 35.34           N
ATOM   1776  N   HIS A 234      29.423  36.314  42.194  1.00 32.53           N
ATOM   1777  CA  HIS A 234      28.038  36.145  42.604  1.00 33.01           C
ATOM   1778  C   HIS A 234      27.503  34.834  42.094  1.00 33.09           C
ATOM   1779  O   HIS A 234      27.932  34.325  41.068  1.00 33.26           O
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ATOM   1780  CB  HIS A 234      27.221  37.276  42.024  1.00 33.15           C
ATOM   1781  CG  HIS A 234      25.817  37.383  42.531  1.00 32.96           C
ATOM   1782  ND1 HIS A 234      24.767  36.704  41.951  1.00 32.53           N
ATOM   1783  CD2 HIS A 234      25.268  38.191  43.471  1.00 32.12           C
ATOM   1784  CE1 HIS A 234      23.639  37.056  42.540  1.00 32.45           C
ATOM   1785  NE2 HIS A 234      23.916  37.953  43.470  1.00 32.09           N
ATOM   1786  N   PRO A 235      26.571  34.263  42.827  1.00 33.15           N
ATOM   1787  CA  PRO A 235      25.985  32.996  42.410  1.00 32.79           C
ATOM   1788  C   PRO A 235      25.386  33.045  41.026  1.00 32.62           C
ATOM   1789  O   PRO A 235      25.210  31.990  40.440  1.00 32.65           O
ATOM   1790  CB  PRO A 235      24.897  32.773  43.450  1.00 33.00           C
ATOM   1791  CG  PRO A 235      25.412  33.500  44.672  1.00 32.79           C
ATOM   1792  CD  PRO A 235      26.049  34.725  44.128  1.00 33.00           C
ATOM   1793  N   CYS A 236      25.095  34.226  40.493  1.00 32.39           N
ATOM   1794  CA  CYS A 236      24.487  34.286  39.185  1.00 32.11           C
ATOM   1795  C   CYS A 236      25.529  34.640  38.139  1.00 32.34           C
ATOM   1796  O   CYS A 236      25.217  35.034  37.018  1.00 32.23           O
ATOM   1797  CB  CYS A 236      23.270  35.192  39.206  1.00 32.02           C
ATOM   1798  SG  CYS A 236      21.990  34.545  40.326  1.00 32.09           S
ATOM   1799  N   ASP A 237      26.789  34.456  38.511  1.00 32.71           N
ATOM   1800  CA  ASP A 237      27.883  34.609  37.576  1.00 33.21           C
ATOM   1801  C   ASP A 237      27.518  34.022  36.211  1.00 33.63           C
ATOM   1802  O   ASP A 237      27.042  32.911  36.095  1.00 33.33           O
ATOM   1803  CB  ASP A 237      29.139  33.964  38.132  1.00 33.01           C
ATOM   1804  CG  ASP A 237      30.283  33.981  37.151  1.00 33.76           C
ATOM   1805  OD1 ASP A 237      30.340  34.874  36.279  1.00 34.52           O
ATOM   1806  OD2 ASP A 237      31.193  33.135  37.181  1.00 36.09           O
ATOM   1807  N   ARG A 238      27.731  34.821  35.180  1.00 34.68           N
ATOM   1808  CA  ARG A 238      27.414  34.451  33.810  1.00 35.15           C
ATOM   1809  C   ARG A 238      25.962  34.690  33.375  1.00 34.98           C
ATOM   1810  O   ARG A 238      25.664  34.543  32.197  1.00 34.26           O
ATOM   1811  CB  ARG A 238      27.819  33.020  33.561  1.00 35.64           C
ATOM   1812  CG  ARG A 238      29.286  32.847  33.620  1.00 36.86           C
ATOM   1813  CD  ARG A 238      29.682  31.474  33.268  1.00 38.59           C
ATOM   1814  NE  ARG A 238      29.321  30.549  34.338  1.00 41.64           N
ATOM   1815  CZ  ARG A 238      28.265  29.755  34.286  1.00 43.17           C
ATOM   1816  NH1 ARG A 238      27.459  29.802  33.218  1.00 44.38           N
ATOM   1817  NH2 ARG A 238      28.006  28.923  35.291  1.00 42.18           N
ATOM   1818  N   GLN A 239      25.067  35.044  34.303  1.00 35.13           N
ATOM   1819  CA  GLN A 239      23.683  35.360  33.920  1.00 35.13           C
ATOM   1820  C   GLN A 239      23.558  36.872  33.825  1.00 34.56           C
ATOM   1821  O   GLN A 239      24.240  37.587  34.539  1.00 34.65           O
ATOM   1822  CB  GLN A 239      22.646  34.839  34.921  1.00 35.27           C
ATOM   1823  CG  GLN A 239      22.952  33.510  35.566  1.00 37.30           C
ATOM   1824  CD  GLN A 239      23.270  32.431  34.552  1.00 41.59           C
ATOM   1825  OE1 GLN A 239      22.418  32.072  33.726  1.00 45.42           O
ATOM   1826  NE2 GLN A 239      24.491  31.899  34.609  1.00 42.92           N
ATOM   1827  N   SER A 240      22.705  37.358  32.930  1.00 33.99           N
ATOM   1828  CA  SER A 240      22.455  38.785  32.802  1.00 33.14           C
ATOM   1829  C   SER A 240      21.613  39.254  33.957  1.00 32.53           C
ATOM   1830  O   SER A 240      20.773  38.528  34.446  1.00 31.77           O
ATOM   1831  CB  SER A 240      21.663  39.077  31.542  1.00 33.15           C
ATOM   1832  OG  SER A 240      20.971  40.309  31.668  1.00 33.28           O
ATOM   1833  N   GLN A 241      21.805  40.492  34.371  1.00 32.52           N
ATOM   1834  CA  GLN A 241      21.022  41.025  35.476  1.00 32.54           C
ATOM   1835  C   GLN A 241      19.711  41.629  35.001  1.00 32.44           C
ATOM   1836  O   GLN A 241      18.872  42.019  35.804  1.00 32.16           O
ATOM   1837  CB  GLN A 241      21.791  42.116  36.196  1.00 32.36           C
ATOM   1838  CG  GLN A 241      22.995  41.669  36.917  1.00 32.74           C
ATOM   1839  CD  GLN A 241      23.760  42.837  37.450  1.00 33.65           C
ATOM   1840  OE1 GLN A 241      23.353  43.442  38.428  1.00 34.26           O
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ATOM   1841  NE2 GLN A 241      24.858  43.182  36.794  1.00 35.62           N
ATOM   1842  N   VAL A 242      19.513  41.708  33.705  1.00 32.07           N
ATOM   1843  CA  VAL A 242      18.357  42.412  33.255  1.00 32.29           C
ATOM   1844  C   VAL A 242      17.162  41.521  33.265  1.00 31.93           C
ATOM   1845  O   VAL A 242      17.221  40.442  32.734  1.00 32.93           O
ATOM   1846  CB  VAL A 242      18.516  42.848  31.808  1.00 32.63           C
ATOM   1847  CG1 VAL A 242      17.252  43.532  31.320  1.00 32.50           C
ATOM   1848  CG2 VAL A 242      19.717  43.714  31.655  1.00 33.06           C
ATOM   1849  N   ASP A 243      16.067  41.977  33.838  1.00 31.76           N
ATOM   1850  CA  ASP A 243      14.812  41.271  33.714  1.00 31.73           C
ATOM   1851  C   ASP A 243      14.177  41.559  32.346  1.00 31.87           C
ATOM   1852  O   ASP A 243      13.536  42.595  32.150  1.00 31.46           O
ATOM   1853  CB  ASP A 243      13.861  41.689  34.830  1.00 31.61           C
ATOM   1854  CG  ASP A 243      12.488  41.049  34.708  1.00 32.08           C
ATOM   1855  OD1 ASP A 243      12.164  40.448  33.655  1.00 30.69           O
ATOM   1856  OD2 ASP A 243      11.654  41.103  35.635  1.00 33.90           O
ATOM   1857  N   PHE A 244      14.326  40.623  31.410  1.00 32.16           N
ATOM   1858  CA  PHE A 244      13.746  40.787  30.075  1.00 32.29           C
ATOM   1859  C   PHE A 244      12.252  41.087  30.092  1.00 32.74           C
ATOM   1860  O   PHE A 244      11.741  41.694  29.162  1.00 32.51           O
ATOM   1861  CB  PHE A 244      13.963  39.559  29.220  1.00 31.99           C
ATOM   1862  CG  PHE A 244      15.327  39.446  28.650  1.00 31.29           C
ATOM   1863  CD1 PHE A 244      16.436  39.886  29.342  1.00 31.05           C
ATOM   1864  CD2 PHE A 244      15.500  38.861  27.421  1.00 31.04           C
ATOM   1865  CE1 PHE A 244      17.684  39.733  28.815  1.00 31.37           C
ATOM   1866  CE2 PHE A 244      16.742  38.709  26.888  1.00 31.39           C
ATOM   1867  CZ  PHE A 244      17.839  39.141  27.584  1.00 31.77           C
ATOM   1868  N   ASP A 245      11.547  40.646  31.124  1.00 33.52           N
ATOM   1869  CA  ASP A 245      10.130  40.946  31.214  1.00 34.33           C
ATOM   1870  C   ASP A 245       9.831  42.375  31.606  1.00 34.52           C
ATOM   1871  O   ASP A 245       8.789  42.902  31.251  1.00 34.40           O
ATOM   1872  CB  ASP A 245       9.448  40.015  32.188  1.00 34.59           C
ATOM   1873  CG  ASP A 245       9.361  38.639  31.658  1.00 35.47           C
ATOM   1874  OD1 ASP A 245       9.282  38.519  30.420  1.00 36.40           O
ATOM   1875  OD2 ASP A 245       9.384  37.624  32.383  1.00 37.65           O
ATOM   1876  N   ASN A 246      10.737  43.000  32.339  1.00 35.03           N
ATOM   1877  CA  ASN A 246      10.531  44.364  32.776  1.00 35.38           C
ATOM   1878  C   ASN A 246      11.873  45.003  32.896  1.00 34.97           C
ATOM   1879  O   ASN A 246      12.370  45.160  33.994  1.00 35.01           O
ATOM   1880  CB  ASN A 246       9.843  44.397  34.136  1.00 35.69           C
ATOM   1881  CG  ASN A 246       9.395  45.800  34.533  1.00 37.41           C
ATOM   1882  OD1 ASN A 246       9.241  46.691  33.682  1.00 38.99           O
ATOM   1883  ND2 ASN A 246       9.186  46.006  35.836  1.00 38.90           N
ATOM   1884  N   PRO A 247      12.468  45.357  31.766  1.00 34.87           N
ATOM   1885  CA  PRO A 247      13.816  45.931  31.766  1.00 34.87           C
ATOM   1886  C   PRO A 247      13.868  47.295  32.407  1.00 34.83           C
ATOM   1887  O   PRO A 247      13.038  48.159  32.127  1.00 34.82           O
ATOM   1888  CB  PRO A 247      14.184  46.046  30.288  1.00 34.75           C
ATOM   1889  CG  PRO A 247      13.028  45.475  29.507  1.00 34.95           C
ATOM   1890  CD  PRO A 247      11.892  45.241  30.419  1.00 34.75           C
ATOM   1891  N   ASP A 248      14.861  47.448  33.270  1.00 34.67           N
ATOM   1892  CA  ASP A 248      15.112  48.654  34.003  1.00 34.76           C
ATOM   1893  C   ASP A 248      16.205  49.419  33.294  1.00 34.89           C
ATOM   1894  O   ASP A 248      17.395  49.240  33.568  1.00 34.59           O
ATOM   1895  CB  ASP A 248      15.583  48.265  35.387  1.00 34.87           C
ATOM   1896  CG  ASP A 248      15.703  49.433  36.329  1.00 35.10           C
ATOM   1897  OD1 ASP A 248      15.958  50.583  35.902  1.00 34.24           O
ATOM   1898  OD2 ASP A 248      15.574  49.259  37.550  1.00 36.72           O
ATOM   1899  N   TYR A 249      15.793  50.302  32.399  1.00 35.08           N
ATOM   1900  CA  TYR A 249      16.743  51.063  31.615  1.00 35.24           C
ATOM   1901  C   TYR A 249      17.578  52.071  32.400  1.00 35.48           C
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ATOM   1902  O   TYR A 249      18.570  52.567  31.880  1.00 35.44           O
ATOM   1903  CB  TYR A 249      16.021  51.741  30.465  1.00 35.05           C
ATOM   1904  CG  TYR A 249      15.304  50.761  29.586  1.00 34.41           C
ATOM   1905  CD1 TYR A 249      15.977  49.718  28.971  1.00 34.17           C
ATOM   1906  CD2 TYR A 249      13.955  50.865  29.383  1.00 34.14           C
ATOM   1907  CE1 TYR A 249      15.312  48.828  28.172  1.00 33.95           C
ATOM   1908  CE2 TYR A 249      13.287  49.983  28.595  1.00 33.71           C
ATOM   1909  CZ  TYR A 249      13.954  48.974  27.989  1.00 34.19           C
ATOM   1910  OH  TYR A 249      13.232  48.113  27.194  1.00 35.64           O
ATOM   1911  N   GLU A 250      17.207  52.393  33.631  1.00 35.82           N
ATOM   1912  CA  GLU A 250      18.072  53.273  34.399  1.00 36.69           C
ATOM   1913  C   GLU A 250      19.331  52.562  34.834  1.00 36.69           C
ATOM   1914  O   GLU A 250      20.424  53.102  34.715  1.00 36.84           O
ATOM   1915  CB  GLU A 250      17.369  53.836  35.607  1.00 37.10           C
ATOM   1916  CG  GLU A 250      16.173  54.653  35.195  1.00 39.48           C
ATOM   1917  CD  GLU A 250      15.559  55.362  36.359  1.00 42.67           C
ATOM   1918  OE1 GLU A 250      16.128  55.258  37.469  1.00 45.95           O
ATOM   1919  OE2 GLU A 250      14.529  56.030  36.160  1.00 44.93           O
ATOM   1920  N   ARG A 251      19.202  51.344  35.332  1.00 36.55           N
ATOM   1921  CA  ARG A 251      20.389  50.666  35.773  1.00 36.36           C
ATOM   1922  C   ARG A 251      21.124  50.162  34.584  1.00 35.91           C
ATOM   1923  O   ARG A 251      22.347  50.117  34.588  1.00 36.89           O
ATOM   1924  CB  ARG A 251      20.062  49.495  36.697  1.00 36.66           C
ATOM   1925  CG  ARG A 251      19.329  49.936  37.981  1.00 38.10           C
ATOM   1926  CD  ARG A 251      18.848  48.824  38.916  1.00 39.00           C
ATOM   1927  NE  ARG A 251      19.969  48.005  39.371  1.00 40.55           N
ATOM   1928  CZ  ARG A 251      19.895  46.712  39.648  1.00 41.33           C
ATOM   1929  NH1 ARG A 251      18.742  46.068  39.542  1.00 42.58           N
ATOM   1930  NH2 ARG A 251      20.978  46.058  40.025  1.00 41.49           N
ATOM   1931  N   PHE A 252      20.388  49.807  33.545  1.00 35.06           N
ATOM   1932  CA  PHE A 252      20.988  49.065  32.455  1.00 34.37           C
ATOM   1933  C   PHE A 252      20.653  49.675  31.138  1.00 33.82           C
ATOM   1934  O   PHE A 252      20.048  49.042  30.278  1.00 33.57           O
ATOM   1935  CB  PHE A 252      20.429  47.662  32.458  1.00 34.19           C
ATOM   1936  CG  PHE A 252      20.404  47.019  33.803  1.00 33.98           C
ATOM   1937  CD1 PHE A 252      21.559  46.855  34.532  1.00 33.98           C
ATOM   1938  CD2 PHE A 252      19.220  46.560  34.337  1.00 32.84           C
ATOM   1939  CE1 PHE A 252      21.519  46.238  35.760  1.00 33.51           C
ATOM   1940  CE2 PHE A 252      19.189  45.953  35.560  1.00 32.14           C
ATOM   1941  CZ  PHE A 252      20.327  45.789  36.269  1.00 31.96           C
ATOM   1942  N   PRO A 253      21.087  50.903  30.959  1.00 33.27           N
ATOM   1943  CA  PRO A 253      20.677  51.675  29.795  1.00 32.92           C
ATOM   1944  C   PRO A 253      21.008  50.995  28.470  1.00 32.86           C
ATOM   1945  O   PRO A 253      20.215  51.136  27.541  1.00 32.58           O
ATOM   1946  CB  PRO A 253      21.464  52.957  29.962  1.00 32.58           C
ATOM   1947  CG  PRO A 253      22.584  52.562  30.808  1.00 32.44           C
ATOM   1948  CD  PRO A 253      22.038  51.640  31.802  1.00 32.67           C
ATOM   1949  N   ASN A 254      22.108  50.253  28.359  1.00 32.60           N
ATOM   1950  CA  ASN A 254      22.419  49.726  27.037  1.00 32.87           C
ATOM   1951  C   ASN A 254      21.564  48.569  26.615  1.00 32.59           C
ATOM   1952  O   ASN A 254      21.671  48.088  25.503  1.00 32.69           O
ATOM   1953  CB  ASN A 254      23.892  49.414  26.852  1.00 32.72           C
ATOM   1954  CG  ASN A 254      24.710  50.665  26.745  1.00 33.92           C
ATOM   1955  OD1 ASN A 254      25.428  51.022  27.672  1.00 37.05           O
ATOM   1956  ND2 ASN A 254      24.569  51.380  25.626  1.00 34.86           N
ATOM   1957  N   PHE A 255      20.690  48.124  27.491  1.00 32.37           N
ATOM   1958  CA  PHE A 255      19.834  47.057  27.101  1.00 32.19           C
ATOM   1959  C   PHE A 255      18.932  47.578  26.006  1.00 32.36           C
ATOM   1960  O   PHE A 255      18.267  46.819  25.326  1.00 32.64           O
ATOM   1961  CB  PHE A 255      18.990  46.572  28.250  1.00 31.93           C
ATOM   1962  CG  PHE A 255      18.249  45.354  27.918  1.00 31.43           C
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ATOM   1963  CD1 PHE A 255      18.919  44.176  27.718  1.00 33.75           C
ATOM   1964  CD2 PHE A 255      16.909  45.392  27.718  1.00 31.23           C
ATOM   1965  CE1 PHE A 255      18.239  43.035  27.367  1.00 34.05           C
ATOM   1966  CE2 PHE A 255      16.230  44.275  27.380  1.00 32.00           C
ATOM   1967  CZ  PHE A 255      16.890  43.088  27.203  1.00 32.84           C
ATOM   1968  N   GLN A 256      18.890  48.888  25.844  1.00 32.46           N
ATOM   1969  CA  GLN A 256      18.078  49.456  24.794  1.00 32.37           C
ATOM   1970  C   GLN A 256      18.776  49.342  23.455  1.00 32.34           C
ATOM   1971  O   GLN A 256      18.260  49.815  22.470  1.00 32.11           O
ATOM   1972  CB  GLN A 256      17.777  50.924  25.061  1.00 32.28           C
ATOM   1973  CG  GLN A 256      16.775  51.169  26.144  1.00 32.39           C
ATOM   1974  CD  GLN A 256      16.823  52.594  26.645  1.00 32.91           C
ATOM   1975  OE1 GLN A 256      15.830  53.303  26.588  1.00 34.66           O
ATOM   1976  NE2 GLN A 256      17.982  53.021  27.125  1.00 32.30           N
ATOM   1977  N   ASN A 257      19.956  48.744  23.404  1.00 32.78           N
ATOM   1978  CA  ASN A 257      20.634  48.617  22.126  1.00 33.17           C
ATOM   1979  C   ASN A 257      20.828  47.159  21.763  1.00 34.01           C
ATOM   1980  O   ASN A 257      21.406  46.841  20.721  1.00 34.41           O
ATOM   1981  CB  ASN A 257      21.998  49.310  22.140  1.00 32.88           C
ATOM   1982  CG  ASN A 257      21.928  50.750  22.595  1.00 31.31           C
ATOM   1983  OD1 ASN A 257      22.471  51.105  23.639  1.00 27.26           O
ATOM   1984  ND2 ASN A 257      21.283  51.595  21.797  1.00 29.34           N
ATOM   1985  N   VAL A 258      20.338  46.263  22.606  1.00 34.66           N
ATOM   1986  CA  VAL A 258      20.565  44.855  22.370  1.00 35.33           C
ATOM   1987  C   VAL A 258      19.832  44.361  21.130  1.00 35.37           C
ATOM   1988  O   VAL A 258      18.751  44.832  20.813  1.00 34.96           O
ATOM   1989  CB  VAL A 258      20.144  44.010  23.558  1.00 35.59           C
ATOM   1990  CG1 VAL A 258      18.632  43.851  23.604  1.00 35.73           C
ATOM   1991  CG2 VAL A 258      20.780  42.662  23.428  1.00 36.60           C
ATOM   1992  N   VAL A 259      20.447  43.418  20.428  1.00 35.87           N
ATOM   1993  CA  VAL A 259      19.853  42.844  19.230  1.00 36.40           C
ATOM   1994  C   VAL A 259      20.125  41.355  19.148  1.00 36.66           C
ATOM   1995  O   VAL A 259      21.282  40.943  19.102  1.00 36.47           O
ATOM   1996  CB  VAL A 259      20.450  43.459  17.969  1.00 36.47           C
ATOM   1997  CG1 VAL A 259      19.830  42.822  16.764  1.00 36.75           C
ATOM   1998  CG2 VAL A 259      20.212  44.931  17.932  1.00 36.66           C
ATOM   1999  N   GLY A 260      19.066  40.551  19.085  1.00 37.15           N
ATOM   2000  CA  GLY A 260      19.215  39.096  19.067  1.00 37.50           C
ATOM   2001  C   GLY A 260      19.132  38.328  17.745  1.00 37.55           C
ATOM   2002  O   GLY A 260      18.716  38.839  16.704  1.00 37.45           O
ATOM   2003  N   TYR A 261      19.578  37.079  17.817  1.00 37.54           N
ATOM   2004  CA  TYR A 261      19.466  36.113  16.744  1.00 37.52           C
ATOM   2005  C   TYR A 261      18.530  35.107  17.358  1.00 37.09           C
ATOM   2006  O   TYR A 261      18.788  34.648  18.466  1.00 37.12           O
ATOM   2007  CB  TYR A 261      20.796  35.429  16.481  1.00 37.79           C
ATOM   2008  CG  TYR A 261      21.838  36.327  15.874  1.00 39.43           C
ATOM   2009  CD1 TYR A 261      22.005  36.380  14.507  1.00 41.03           C
ATOM   2010  CD2 TYR A 261      22.648  37.125  16.662  1.00 41.07           C
ATOM   2011  CE1 TYR A 261      22.937  37.193  13.940  1.00 41.71           C
ATOM   2012  CE2 TYR A 261      23.593  37.938  16.093  1.00 41.99           C
ATOM   2013  CZ  TYR A 261      23.725  37.960  14.728  1.00 42.45           C
ATOM   2014  OH  TYR A 261      24.650  38.762  14.121  1.00 46.29           O
ATOM   2015  N   GLU A 262      17.430  34.773  16.699  1.00 36.56           N
ATOM   2016  CA  GLU A 262      16.500  33.866  17.346  1.00 35.87           C
ATOM   2017  C   GLU A 262      16.064  32.737  16.447  1.00 35.41           C
ATOM   2018  O   GLU A 262      16.310  32.747  15.248  1.00 35.03           O
ATOM   2019  CB  GLU A 262      15.320  34.639  17.943  1.00 35.67           C
ATOM   2020  CG  GLU A 262      14.085  34.789  17.098  1.00 35.22           C
ATOM   2021  CD  GLU A 262      13.039  35.601  17.821  1.00 35.62           C
ATOM   2022  OE1 GLU A 262      13.201  36.833  17.866  1.00 38.15           O
ATOM   2023  OE2 GLU A 262      12.074  35.031  18.367  1.00 35.12           O
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ATOM   2024  N   THR A 263      15.440  31.744  17.060  1.00 35.07           N
ATOM   2025  CA  THR A 263      15.004  30.565  16.351  1.00 34.84           C
ATOM   2026  C   THR A 263      14.138  29.670  17.224  1.00 34.38           C
ATOM   2027  O   THR A 263      14.152  29.745  18.452  1.00 34.07           O
ATOM   2028  CB  THR A 263      16.235  29.767  15.847  1.00 34.75           C
ATOM   2029  OG1 THR A 263      15.864  28.964  14.731  1.00 35.81           O
ATOM   2030  CG2 THR A 263      16.693  28.745  16.837  1.00 34.59           C
ATOM   2031  N   VAL A 264      13.368  28.820  16.573  1.00 34.02           N
ATOM   2032  CA  VAL A 264      12.597  27.854  17.306  1.00 33.95           C
ATOM   2033  C   VAL A 264      13.054  26.460  16.918  1.00 33.60           C
ATOM   2034  O   VAL A 264      12.957  26.065  15.762  1.00 33.27           O
ATOM   2035  CB  VAL A 264      11.112  28.019  17.075  1.00 33.95           C
ATOM   2036  CG1 VAL A 264      10.393  26.788  17.568  1.00 34.24           C
ATOM   2037  CG2 VAL A 264      10.615  29.247  17.823  1.00 33.85           C
ATOM   2038  N   VAL A 265      13.572  25.708  17.880  1.00 33.43           N
ATOM   2039  CA  VAL A 265      13.984  24.354  17.546  1.00 33.48           C
ATOM   2040  C   VAL A 265      12.949  23.321  17.907  1.00 32.85           C
ATOM   2041  O   VAL A 265      12.234  23.441  18.884  1.00 32.91           O
ATOM   2042  CB  VAL A 265      15.332  23.954  18.139  1.00 33.61           C
ATOM   2043  CG1 VAL A 265      16.408  24.721  17.432  1.00 34.56           C
ATOM   2044  CG2 VAL A 265      15.381  24.153  19.636  1.00 33.15           C
ATOM   2045  N   GLY A 266      12.848  22.321  17.064  1.00 32.32           N
ATOM   2046  CA  GLY A 266      11.938  21.240  17.331  1.00 32.27           C
ATOM   2047  C   GLY A 266      12.634  19.905  17.310  1.00 31.78           C
ATOM   2048  O   GLY A 266      13.852  19.799  17.124  1.00 31.15           O
ATOM   2049  N   PRO A 267      11.827  18.872  17.454  1.00 31.56           N
ATOM   2050  CA  PRO A 267      12.343  17.516  17.547  1.00 31.40           C
ATOM   2051  C   PRO A 267      13.203  17.314  16.336  1.00 31.22           C
ATOM   2052  O   PRO A 267      12.755  17.631  15.241  1.00 31.24           O
ATOM   2053  CB  PRO A 267      11.074  16.664  17.552  1.00 30.81           C
ATOM   2054  CG  PRO A 267      10.048  17.568  18.087  1.00 31.26           C
ATOM   2055  CD  PRO A 267      10.358  18.900  17.451  1.00 31.85           C
ATOM   2056  N   GLY A 268      14.445  16.891  16.536  1.00 31.06           N
ATOM   2057  CA  GLY A 268      15.334  16.620  15.426  1.00 31.07           C
ATOM   2058  C   GLY A 268      16.337  17.703  15.112  1.00 31.31           C
ATOM   2059  O   GLY A 268      17.352  17.425  14.493  1.00 31.12           O
ATOM   2060  N   ASP A 269      16.061  18.939  15.517  1.00 31.87           N
ATOM   2061  CA  ASP A 269      16.975  20.032  15.253  1.00 32.18           C
ATOM   2062  C   ASP A 269      18.117  20.099  16.282  1.00 32.69           C
ATOM   2063  O   ASP A 269      17.974  19.720  17.450  1.00 32.69           O
ATOM   2064  CB  ASP A 269      16.282  21.381  15.390  1.00 32.73           C
ATOM   2065  CG  ASP A 269      15.094  21.583  14.478  1.00 32.07           C
ATOM   2066  OD1 ASP A 269      15.023  21.039  13.367  1.00 33.96           O
ATOM   2067  OD2 ASP A 269      14.191  22.368  14.806  1.00 30.81           O
ATOM   2068  N   VAL A 270      19.234  20.667  15.854  1.00 32.97           N
ATOM   2069  CA  VAL A 270      20.376  20.839  16.715  1.00 32.97           C
ATOM   2070  C   VAL A 270      20.844  22.258  16.579  1.00 32.97           C
ATOM   2071  O   VAL A 270      21.130  22.716  15.488  1.00 33.40           O
ATOM   2072  CB  VAL A 270      21.485  19.896  16.323  1.00 32.94           C
ATOM   2073  CG1 VAL A 270      22.755  20.207  17.066  1.00 33.16           C
ATOM   2074  CG2 VAL A 270      21.069  18.519  16.646  1.00 33.14           C
ATOM   2075  N   LEU A 271      20.883  22.965  17.692  1.00 32.91           N
ATOM   2076  CA  LEU A 271      21.321  24.337  17.690  1.00 32.91           C
ATOM   2077  C   LEU A 271      22.770  24.395  18.129  1.00 32.95           C
ATOM   2078  O   LEU A 271      23.116  23.864  19.161  1.00 32.76           O
ATOM   2079  CB  LEU A 271      20.468  25.159  18.656  1.00 32.64           C
ATOM   2080  CG  LEU A 271      20.896  26.616  18.773  1.00 32.61           C
ATOM   2081  CD1 LEU A 271      20.989  27.276  17.405  1.00 32.23           C
ATOM   2082  CD2 LEU A 271      19.936  27.383  19.638  1.00 33.12           C
ATOM   2083  N   TYR A 272      23.633  25.006  17.333  1.00 33.19           N
ATOM   2084  CA  TYR A 272      24.989  25.215  17.791  1.00 33.39           C
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ATOM   2085  C   TYR A 272      25.004  26.517  18.554  1.00 33.40           C
ATOM   2086  O   TYR A 272      24.834  27.560  17.950  1.00 33.42           O
ATOM   2087  CB  TYR A 272      25.991  25.297  16.633  1.00 33.28           C
ATOM   2088  CG  TYR A 272      27.376  25.802  17.039  1.00 32.43           C
ATOM   2089  CD1 TYR A 272      28.005  25.340  18.179  1.00 31.06           C
ATOM   2090  CD2 TYR A 272      28.047  26.746  16.267  1.00 32.28           C
ATOM   2091  CE1 TYR A 272      29.265  25.805  18.544  1.00 30.52           C
ATOM   2092  CE2 TYR A 272      29.300  27.213  16.622  1.00 30.88           C
ATOM   2093  CZ  TYR A 272      29.906  26.737  17.759  1.00 29.92           C
ATOM   2094  OH  TYR A 272      31.146  27.216  18.113  1.00 27.15           O
ATOM   2095  N   ILE A 273      25.178  26.438  19.872  1.00 33.69           N
ATOM   2096  CA  ILE A 273      25.350  27.609  20.734  1.00 33.97           C
ATOM   2097  C   ILE A 273      26.830  27.759  21.068  1.00 34.43           C
ATOM   2098  O   ILE A 273      27.332  27.113  21.998  1.00 34.76           O
ATOM   2099  CB  ILE A 273      24.595  27.436  22.032  1.00 33.75           C
ATOM   2100  CG1 ILE A 273      23.122  27.219  21.749  1.00 33.59           C
ATOM   2101  CG2 ILE A 273      24.779  28.654  22.896  1.00 33.60           C
ATOM   2102  CD1 ILE A 273      22.306  26.986  22.984  1.00 33.23           C
ATOM   2103  N   PRO A 274      27.519  28.630  20.345  1.00 34.61           N
ATOM   2104  CA  PRO A 274      28.965  28.780  20.485  1.00 34.92           C
ATOM   2105  C   PRO A 274      29.348  29.378  21.803  1.00 35.17           C
ATOM   2106  O   PRO A 274      28.639  30.252  22.300  1.00 35.16           O
ATOM   2107  CB  PRO A 274      29.333  29.771  19.382  1.00 35.09           C
ATOM   2108  CG  PRO A 274      28.113  29.929  18.551  1.00 35.02           C
ATOM   2109  CD  PRO A 274      26.957  29.584  19.388  1.00 34.69           C
ATOM   2110  N   MET A 275      30.476  28.927  22.339  1.00 35.69           N
ATOM   2111  CA  MET A 275      30.982  29.399  23.622  1.00 36.15           C
ATOM   2112  C   MET A 275      30.981  30.917  23.754  1.00 36.09           C
ATOM   2113  O   MET A 275      31.316  31.635  22.805  1.00 36.23           O
ATOM   2114  CB  MET A 275      32.400  28.928  23.805  1.00 36.23           C
ATOM   2115  CG  MET A 275      32.813  28.928  25.229  1.00 38.02           C
ATOM   2116  SD  MET A 275      34.361  28.108  25.442  1.00 42.07           S
ATOM   2117  CE  MET A 275      35.330  28.680  23.895  1.00 42.34           C
ATOM   2118  N   TYR A 276      30.611  31.401  24.935  1.00 35.76           N
ATOM   2119  CA  TYR A 276      30.574  32.833  25.191  1.00 35.62           C
ATOM   2120  C   TYR A 276      29.339  33.513  24.555  1.00 35.32           C
ATOM   2121  O   TYR A 276      29.048  34.653  24.866  1.00 35.15           O
ATOM   2122  CB  TYR A 276      31.921  33.510  24.804  1.00 35.75           C
ATOM   2123  CG  TYR A 276      33.049  33.221  25.822  1.00 35.70           C
ATOM   2124  CD1 TYR A 276      33.036  33.805  27.077  1.00 34.51           C
ATOM   2125  CD2 TYR A 276      34.103  32.356  25.521  1.00 35.30           C
ATOM   2126  CE1 TYR A 276      34.013  33.549  27.997  1.00 34.63           C
ATOM   2127  CE2 TYR A 276      35.100  32.085  26.446  1.00 35.01           C
ATOM   2128  CZ  TYR A 276      35.055  32.685  27.695  1.00 35.73           C
ATOM   2129  OH  TYR A 276      36.051  32.433  28.657  1.00 34.27           O
ATOM   2130  N   TRP A 277      28.573  32.838  23.708  1.00 35.19           N
ATOM   2131  CA  TRP A 277      27.353  33.491  23.224  1.00 35.20           C
ATOM   2132  C   TRP A 277      26.245  33.424  24.245  1.00 35.16           C
ATOM   2133  O   TRP A 277      25.947  32.369  24.797  1.00 35.08           O
ATOM   2134  CB  TRP A 277      26.806  32.880  21.944  1.00 35.27           C
ATOM   2135  CG  TRP A 277      27.538  33.286  20.784  1.00 34.70           C
ATOM   2136  CD1 TRP A 277      28.858  33.128  20.579  1.00 35.11           C
ATOM   2137  CD2 TRP A 277      27.020  33.945  19.639  1.00 35.27           C
ATOM   2138  NE1 TRP A 277      29.213  33.648  19.361  1.00 35.58           N
ATOM   2139  CE2 TRP A 277      28.094  34.156  18.761  1.00 34.89           C
ATOM   2140  CE3 TRP A 277      25.751  34.388  19.258  1.00 35.56           C
ATOM   2141  CZ2 TRP A 277      27.946  34.781  17.543  1.00 32.83           C
ATOM   2142  CZ3 TRP A 277      25.612  35.012  18.041  1.00 34.41           C
ATOM   2143  CH2 TRP A 277      26.704  35.199  17.201  1.00 33.11           C
ATOM   2144  N   TRP A 278      25.597  34.555  24.457  1.00 35.11           N
ATOM   2145  CA  TRP A 278      24.501  34.612  25.388  1.00 35.03           C
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ATOM   2146  C   TRP A 278      23.334  33.859  24.838  1.00 35.14           C
ATOM   2147  O   TRP A 278      23.068  33.939  23.637  1.00 35.16           O
ATOM   2148  CB  TRP A 278      24.047  36.030  25.553  1.00 34.94           C
ATOM   2149  CG  TRP A 278      25.025  36.909  26.185  1.00 35.52           C
ATOM   2150  CD1 TRP A 278      26.030  37.597  25.584  1.00 35.77           C
ATOM   2151  CD2 TRP A 278      25.071  37.244  27.560  1.00 36.19           C
ATOM   2152  NE1 TRP A 278      26.713  38.336  26.518  1.00 36.09           N
ATOM   2153  CE2 TRP A 278      26.133  38.132  27.741  1.00 36.37           C
ATOM   2154  CE3 TRP A 278      24.312  36.876  28.668  1.00 36.48           C
ATOM   2155  CZ2 TRP A 278      26.463  38.637  28.976  1.00 37.12           C
ATOM   2156  CZ3 TRP A 278      24.636  37.375  29.877  1.00 36.37           C
ATOM   2157  CH2 TRP A 278      25.701  38.246  30.032  1.00 36.92           C
ATOM   2158  N   HIS A 279      22.620  33.133  25.692  1.00 35.10           N
ATOM   2159  CA  HIS A 279      21.400  32.516  25.218  1.00 35.20           C
ATOM   2160  C   HIS A 279      20.300  32.555  26.231  1.00 34.69           C
ATOM   2161  O   HIS A 279      20.540  32.348  27.414  1.00 34.75           O
ATOM   2162  CB  HIS A 279      21.624  31.079  24.764  1.00 35.73           C
ATOM   2163  CG  HIS A 279      22.403  30.236  25.727  1.00 37.15           C
ATOM   2164  ND1 HIS A 279      23.775  30.295  25.819  1.00 39.54           N
ATOM   2165  CD2 HIS A 279      22.010  29.283  26.609  1.00 38.10           C
ATOM   2166  CE1 HIS A 279      24.194  29.425  26.726  1.00 39.33           C
ATOM   2167  NE2 HIS A 279      23.143  28.797  27.221  1.00 37.68           N
ATOM   2168  N   HIS A 280      19.092  32.795  25.721  1.00 34.17           N
ATOM   2169  CA  HIS A 280      17.850  32.854  26.483  1.00 33.72           C
ATOM   2170  C   HIS A 280      16.960  31.779  25.901  1.00 33.50           C
ATOM   2171  O   HIS A 280      16.730  31.765  24.705  1.00 33.21           O
ATOM   2172  CB  HIS A 280      17.215  34.208  26.257  1.00 33.58           C
ATOM   2173  CG  HIS A 280      15.733  34.247  26.468  1.00 33.92           C
ATOM   2174  ND1 HIS A 280      15.151  34.997  27.464  1.00 33.67           N
ATOM   2175  CD2 HIS A 280      14.711  33.680  25.779  1.00 34.05           C
ATOM   2176  CE1 HIS A 280      13.838  34.874  27.395  1.00 33.47           C
ATOM   2177  NE2 HIS A 280      13.545  34.078  26.384  1.00 33.19           N
ATOM   2178  N   ILE A 281      16.425  30.892  26.723  1.00 33.62           N
ATOM   2179  CA  ILE A 281      15.699  29.755  26.176  1.00 33.56           C
ATOM   2180  C   ILE A 281      14.358  29.554  26.806  1.00 33.01           C
ATOM   2181  O   ILE A 281      14.242  29.475  28.012  1.00 32.55           O
ATOM   2182  CB  ILE A 281      16.554  28.501  26.300  1.00 33.91           C
ATOM   2183  CG1 ILE A 281      17.699  28.600  25.295  1.00 35.00           C
ATOM   2184  CG2 ILE A 281      15.752  27.277  25.988  1.00 34.05           C
ATOM   2185  CD1 ILE A 281      18.797  27.663  25.562  1.00 36.33           C
ATOM   2186  N   GLU A 282      13.343  29.445  25.960  1.00 33.12           N
ATOM   2187  CA  GLU A 282      11.977  29.342  26.441  1.00 33.13           C
ATOM   2188  C   GLU A 282      11.168  28.219  25.777  1.00 32.96           C
ATOM   2189  O   GLU A 282      11.252  27.988  24.577  1.00 32.94           O
ATOM   2190  CB  GLU A 282      11.290  30.707  26.327  1.00 33.06           C
ATOM   2191  CG  GLU A 282      11.065  31.250  24.925  1.00 33.43           C
ATOM   2192  CD  GLU A 282      10.529  32.682  24.951  1.00 33.96           C
ATOM   2193  OE1 GLU A 282      11.071  33.500  25.703  1.00 34.61           O
ATOM   2194  OE2 GLU A 282       9.563  33.009  24.236  1.00 35.15           O
ATOM   2195  N   SER A 283      10.431  27.497  26.607  1.00 32.96           N
ATOM   2196  CA  SER A 283       9.571  26.420  26.169  1.00 33.51           C
ATOM   2197  C   SER A 283       8.247  27.070  25.784  1.00 34.03           C
ATOM   2198  O   SER A 283       7.654  27.772  26.597  1.00 34.19           O
ATOM   2199  CB  SER A 283       9.375  25.408  27.303  1.00 33.43           C
ATOM   2200  OG  SER A 283      10.371  24.393  27.280  1.00 32.99           O
ATOM   2201  N   LEU A 284       7.769  26.828  24.565  1.00 34.36           N
ATOM   2202  CA  LEU A 284       6.610  27.553  24.081  1.00 34.81           C
ATOM   2203  C   LEU A 284       5.399  27.454  24.982  1.00 35.14           C
ATOM   2204  O   LEU A 284       5.128  26.425  25.599  1.00 35.08           O
ATOM   2205  CB  LEU A 284       6.226  27.131  22.670  1.00 35.02           C
ATOM   2206  CG  LEU A 284       7.302  27.255  21.596  1.00 35.52           C
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ATOM   2207  CD1 LEU A 284       6.675  27.427  20.231  1.00 36.06           C
ATOM   2208  CD2 LEU A 284       8.197  28.404  21.862  1.00 36.37           C
ATOM   2209  N   LEU A 285       4.674  28.561  25.040  1.00 35.48           N
ATOM   2210  CA  LEU A 285       3.481  28.641  25.832  1.00 35.85           C
ATOM   2211  C   LEU A 285       2.509  27.670  25.255  1.00 36.11           C
ATOM   2212  O   LEU A 285       2.314  27.623  24.041  1.00 36.34           O
ATOM   2213  CB  LEU A 285       2.876  30.024  25.742  1.00 35.90           C
ATOM   2214  CG  LEU A 285       3.740  31.116  26.343  1.00 36.22           C
ATOM   2215  CD1 LEU A 285       3.271  32.449  25.821  1.00 36.13           C
ATOM   2216  CD2 LEU A 285       3.701  31.034  27.861  1.00 36.27           C
ATOM   2217  N   ASN A 286       1.909  26.879  26.128  1.00 36.14           N
ATOM   2218  CA  ASN A 286       0.890  25.958  25.703  1.00 36.04           C
ATOM   2219  C   ASN A 286       1.373  24.932  24.663  1.00 35.65           C
ATOM   2220  O   ASN A 286       0.593  24.471  23.833  1.00 35.84           O
ATOM   2221  CB  ASN A 286      -0.283  26.792  25.191  1.00 36.33           C
ATOM   2222  CG  ASN A 286      -0.805  27.766  26.254  1.00 36.97           C
ATOM   2223  OD1 ASN A 286      -1.266  27.346  27.316  1.00 37.84           O
ATOM   2224  ND2 ASN A 286      -0.716  29.067  25.977  1.00 37.29           N
ATOM   2225  N   GLY A 287       2.648  24.550  24.736  1.00 35.18           N
ATOM   2226  CA  GLY A 287       3.220  23.588  23.806  1.00 34.71           C
ATOM   2227  C   GLY A 287       3.556  22.252  24.428  1.00 34.44           C
ATOM   2228  O   GLY A 287       4.071  21.349  23.764  1.00 34.53           O
ATOM   2229  N   GLY A 288       3.255  22.106  25.706  1.00 34.18           N
ATOM   2230  CA  GLY A 288       3.521  20.858  26.371  1.00 34.22           C
ATOM   2231  C   GLY A 288       4.964  20.793  26.766  1.00 34.25           C
ATOM   2232  O   GLY A 288       5.727  21.719  26.523  1.00 34.28           O
ATOM   2233  N   ILE A 289       5.351  19.674  27.349  1.00 34.55           N
ATOM   2234  CA  ILE A 289       6.671  19.572  27.918  1.00 34.83           C
ATOM   2235  C   ILE A 289       7.702  19.529  26.837  1.00 34.87           C
ATOM   2236  O   ILE A 289       7.417  19.196  25.687  1.00 35.21           O
ATOM   2237  CB  ILE A 289       6.815  18.325  28.786  1.00 35.01           C
ATOM   2238  CG1 ILE A 289       7.018  17.091  27.924  1.00 35.30           C
ATOM   2239  CG2 ILE A 289       5.610  18.143  29.694  1.00 35.22           C
ATOM   2240  CD1 ILE A 289       7.654  15.972  28.698  1.00 35.70           C
ATOM   2241  N   THR A 290       8.921  19.853  27.219  1.00 34.80           N
ATOM   2242  CA  THR A 290      10.001  19.849  26.273  1.00 34.64           C
ATOM   2243  C   THR A 290      11.103  18.951  26.740  1.00 34.30           C
ATOM   2244  O   THR A 290      11.286  18.742  27.924  1.00 34.66           O
ATOM   2245  CB  THR A 290      10.522  21.258  26.094  1.00 34.75           C
ATOM   2246  OG1 THR A 290      10.747  21.863  27.375  1.00 34.33           O
ATOM   2247  CG2 THR A 290       9.455  22.105  25.458  1.00 34.98           C
ATOM   2248  N   ILE A 291      11.832  18.395  25.802  1.00 33.95           N
ATOM   2249  CA  ILE A 291      12.940  17.576  26.176  1.00 34.07           C
ATOM   2250  C   ILE A 291      14.091  17.963  25.310  1.00 33.73           C
ATOM   2251  O   ILE A 291      13.933  18.203  24.125  1.00 33.83           O
ATOM   2252  CB  ILE A 291      12.590  16.111  26.029  1.00 34.23           C
ATOM   2253  CG1 ILE A 291      11.439  15.793  26.967  1.00 34.84           C
ATOM   2254  CG2 ILE A 291      13.758  15.248  26.429  1.00 34.60           C
ATOM   2255  CD1 ILE A 291      11.021  14.384  26.946  1.00 35.22           C
ATOM   2256  N   THR A 292      15.254  18.062  25.913  1.00 33.47           N
ATOM   2257  CA  THR A 292      16.410  18.418  25.158  1.00 33.68           C
ATOM   2258  C   THR A 292      17.579  17.741  25.748  1.00 33.73           C
ATOM   2259  O   THR A 292      17.623  17.472  26.942  1.00 33.28           O
ATOM   2260  CB  THR A 292      16.725  19.921  25.265  1.00 33.93           C
ATOM   2261  OG1 THR A 292      15.590  20.725  24.921  1.00 33.80           O
ATOM   2262  CG2 THR A 292      17.774  20.293  24.245  1.00 34.05           C
ATOM   2263  N   VAL A 293      18.565  17.518  24.906  1.00 34.13           N
ATOM   2264  CA  VAL A 293      19.821  17.030  25.391  1.00 34.56           C
ATOM   2265  C   VAL A 293      20.935  17.867  24.813  1.00 34.79           C
ATOM   2266  O   VAL A 293      21.039  18.017  23.600  1.00 34.88           O
ATOM   2267  CB  VAL A 293      20.029  15.603  25.019  1.00 34.66           C
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ATOM   2268  CG1 VAL A 293      21.473  15.238  25.222  1.00 35.24           C
ATOM   2269  CG2 VAL A 293      19.141  14.741  25.880  1.00 35.15           C
ATOM   2270  N   ASN A 294      21.768  18.433  25.681  1.00 34.82           N
ATOM   2271  CA  ASN A 294      22.890  19.187  25.174  1.00 34.61           C
ATOM   2272  C   ASN A 294      24.159  18.372  25.251  1.00 34.68           C
ATOM   2273  O   ASN A 294      24.220  17.350  25.934  1.00 34.28           O
ATOM   2274  CB  ASN A 294      23.036  20.571  25.829  1.00 34.77           C
ATOM   2275  CG  ASN A 294      23.676  20.533  27.197  1.00 33.90           C
ATOM   2276  OD1 ASN A 294      24.170  19.504  27.653  1.00 36.35           O
ATOM   2277  ND2 ASN A 294      23.658  21.670  27.868  1.00 30.46           N
ATOM   2278  N   PHE A 295      25.141  18.870  24.510  1.00 34.93           N
ATOM   2279  CA  PHE A 295      26.450  18.291  24.326  1.00 35.27           C
ATOM   2280  C   PHE A 295      27.467  19.411  24.552  1.00 35.69           C
ATOM   2281  O   PHE A 295      27.610  20.288  23.698  1.00 35.68           O
ATOM   2282  CB  PHE A 295      26.581  17.832  22.875  1.00 35.33           C
ATOM   2283  CG  PHE A 295      25.858  16.554  22.545  1.00 34.85           C
ATOM   2284  CD1 PHE A 295      24.492  16.549  22.332  1.00 35.36           C
ATOM   2285  CD2 PHE A 295      26.559  15.371  22.383  1.00 33.46           C
ATOM   2286  CE1 PHE A 295      23.841  15.378  21.996  1.00 35.19           C
ATOM   2287  CE2 PHE A 295      25.918  14.207  22.048  1.00 33.20           C
ATOM   2288  CZ  PHE A 295      24.566  14.202  21.853  1.00 34.09           C
ATOM   2289  N   TRP A 296      28.182  19.369  25.677  1.00 36.18           N
ATOM   2290  CA  TRP A 296      29.113  20.433  26.073  1.00 36.34           C
ATOM   2291  C   TRP A 296      30.534  19.963  25.938  1.00 36.50           C
ATOM   2292  O   TRP A 296      30.932  18.969  26.563  1.00 36.32           O
ATOM   2293  CB  TRP A 296      28.913  20.830  27.541  1.00 36.57           C
ATOM   2294  CG  TRP A 296      27.934  21.912  27.776  1.00 37.38           C
ATOM   2295  CD1 TRP A 296      26.997  22.361  26.909  1.00 38.36           C
ATOM   2296  CD2 TRP A 296      27.787  22.693  28.965  1.00 39.42           C
ATOM   2297  NE1 TRP A 296      26.275  23.384  27.473  1.00 38.20           N
ATOM   2298  CE2 TRP A 296      26.737  23.605  28.736  1.00 38.86           C
ATOM   2299  CE3 TRP A 296      28.450  22.730  30.204  1.00 40.74           C
ATOM   2300  CZ2 TRP A 296      26.327  24.529  29.682  1.00 41.03           C
ATOM   2301  CZ3 TRP A 296      28.037  23.665  31.160  1.00 40.86           C
ATOM   2302  CH2 TRP A 296      26.989  24.544  30.891  1.00 41.52           C
ATOM   2303  N   TYR A 297      31.303  20.719  25.162  1.00 36.60           N
ATOM   2304  CA  TYR A 297      32.703  20.442  24.923  1.00 36.79           C
ATOM   2305  C   TYR A 297      33.534  21.597  25.457  1.00 36.96           C
ATOM   2306  O   TYR A 297      33.117  22.734  25.363  1.00 36.32           O
ATOM   2307  CB  TYR A 297      32.923  20.291  23.423  1.00 36.93           C
ATOM   2308  CG  TYR A 297      32.280  19.054  22.868  1.00 37.30           C
ATOM   2309  CD1 TYR A 297      30.939  19.046  22.523  1.00 37.28           C
ATOM   2310  CD2 TYR A 297      33.008  17.880  22.716  1.00 36.72           C
ATOM   2311  CE1 TYR A 297      30.346  17.907  22.039  1.00 37.15           C
ATOM   2312  CE2 TYR A 297      32.423  16.747  22.226  1.00 35.89           C
ATOM   2313  CZ  TYR A 297      31.088  16.764  21.893  1.00 36.57           C
ATOM   2314  OH  TYR A 297      30.467  15.641  21.405  1.00 36.99           O
ATOM   2315  N   LYS A 298      34.696  21.303  26.039  1.00 37.93           N
ATOM   2316  CA  LYS A 298      35.615  22.347  26.495  1.00 38.45           C
ATOM   2317  C   LYS A 298      36.090  22.994  25.236  1.00 38.43           C
ATOM   2318  O   LYS A 298      36.245  22.320  24.229  1.00 38.55           O
ATOM   2319  CB  LYS A 298      36.835  21.782  27.233  1.00 38.67           C
ATOM   2320  CG  LYS A 298      36.634  21.550  28.737  1.00 40.58           C
ATOM   2321  CD  LYS A 298      37.928  21.093  29.484  1.00 42.63           C
ATOM   2322  CE  LYS A 298      37.631  20.622  30.951  1.00 44.00           C
ATOM   2323  NZ  LYS A 298      38.841  20.251  31.812  1.00 43.61           N
ATOM   2324  N   GLY A 299      36.347  24.286  25.277  1.00 38.82           N
ATOM   2325  CA  GLY A 299      36.768  24.976  24.080  1.00 39.19           C
ATOM   2326  C   GLY A 299      38.174  24.582  23.719  1.00 39.60           C
ATOM   2327  O   GLY A 299      38.859  23.930  24.502  1.00 39.93           O
ATOM   2328  N   ALA A 300      38.594  24.963  22.520  1.00 40.20           N
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ATOM   2329  CA  ALA A 300      39.963  24.751  22.072  1.00 40.70           C
ATOM   2330  C   ALA A 300      40.917  25.588  22.929  1.00 41.18           C
ATOM   2331  O   ALA A 300      40.483  26.417  23.722  1.00 41.25           O
ATOM   2332  CB  ALA A 300      40.085  25.143  20.616  1.00 40.64           C
ATOM   2333  N   PRO A 301      42.215  25.408  22.733  1.00 41.91           N
ATOM   2334  CA  PRO A 301      43.213  26.102  23.542  1.00 42.49           C
ATOM   2335  C   PRO A 301      43.448  27.541  23.128  1.00 43.14           C
ATOM   2336  O   PRO A 301      43.323  27.899  21.962  1.00 43.31           O
ATOM   2337  CB  PRO A 301      44.483  25.326  23.230  1.00 42.38           C
ATOM   2338  CG  PRO A 301      44.300  24.924  21.833  1.00 42.16           C
ATOM   2339  CD  PRO A 301      42.851  24.571  21.701  1.00 41.99           C
ATOM   2340  N   THR A 302      43.823  28.343  24.112  1.00 43.86           N
ATOM   2341  CA  THR A 302      44.199  29.726  23.915  1.00 44.26           C
ATOM   2342  C   THR A 302      45.588  29.732  23.318  1.00 44.56           C
ATOM   2343  O   THR A 302      46.524  29.337  24.011  1.00 44.82           O
ATOM   2344  CB  THR A 302      44.284  30.383  25.277  1.00 44.20           C
ATOM   2345  OG1 THR A 302      43.030  30.253  25.956  1.00 45.23           O
ATOM   2346  CG2 THR A 302      44.512  31.858  25.138  1.00 44.53           C
ATOM   2347  N   PRO A 303      45.770  30.229  22.091  1.00 44.72           N
ATOM   2348  CA  PRO A 303      47.083  30.128  21.438  1.00 44.51           C
ATOM   2349  C   PRO A 303      48.177  30.759  22.306  1.00 44.48           C
ATOM   2350  O   PRO A 303      47.835  31.522  23.221  1.00 44.02           O
ATOM   2351  CB  PRO A 303      46.897  30.929  20.145  1.00 44.55           C
ATOM   2352  CG  PRO A 303      45.426  30.929  19.904  1.00 44.28           C
ATOM   2353  CD  PRO A 303      44.834  31.040  21.288  1.00 44.71           C
ATOM   2354  N   GLU A 307      46.829  36.983  18.732  1.00 42.48           N
ATOM   2355  CA  GLU A 307      46.845  37.952  17.646  1.00 42.70           C
ATOM   2356  C   GLU A 307      45.812  39.039  17.801  1.00 42.57           C
ATOM   2357  O   GLU A 307      44.654  38.807  18.138  1.00 42.62           O
ATOM   2358  CB  GLU A 307      46.624  37.296  16.284  1.00 43.00           C
ATOM   2359  CG  GLU A 307      46.980  38.235  15.127  1.00 43.85           C
ATOM   2360  CD  GLU A 307      47.091  37.541  13.779  1.00 44.71           C
ATOM   2361  OE1 GLU A 307      46.618  36.385  13.643  1.00 45.10           O
ATOM   2362  OE2 GLU A 307      47.649  38.170  12.851  1.00 45.60           O
ATOM   2363  N   TYR A 308      46.249  40.243  17.503  1.00 42.66           N
ATOM   2364  CA  TYR A 308      45.384  41.379  17.577  1.00 42.64           C
ATOM   2365  C   TYR A 308      44.814  41.530  16.189  1.00 42.85           C
ATOM   2366  O   TYR A 308      45.413  41.066  15.203  1.00 43.43           O
ATOM   2367  CB  TYR A 308      46.184  42.565  18.034  1.00 42.47           C
ATOM   2368  CG  TYR A 308      46.744  42.281  19.399  1.00 43.35           C
ATOM   2369  CD1 TYR A 308      45.996  42.552  20.534  1.00 44.58           C
ATOM   2370  CD2 TYR A 308      47.986  41.681  19.559  1.00 43.97           C
ATOM   2371  CE1 TYR A 308      46.482  42.284  21.790  1.00 45.23           C
ATOM   2372  CE2 TYR A 308      48.483  41.401  20.818  1.00 44.79           C
ATOM   2373  CZ  TYR A 308      47.726  41.708  21.935  1.00 45.46           C
ATOM   2374  OH  TYR A 308      48.200  41.453  23.207  1.00 45.86           O
ATOM   2375  N   PRO A 309      43.631  42.119  16.111  1.00 42.47           N
ATOM   2376  CA  PRO A 309      42.930  42.648  17.285  1.00 42.08           C
ATOM   2377  C   PRO A 309      42.209  41.528  18.051  1.00 41.24           C
ATOM   2378  O   PRO A 309      41.774  40.578  17.408  1.00 40.92           O
ATOM   2379  CB  PRO A 309      41.910  43.583  16.652  1.00 42.39           C
ATOM   2380  CG  PRO A 309      41.574  42.895  15.337  1.00 42.16           C
ATOM   2381  CD  PRO A 309      42.843  42.260  14.874  1.00 42.28           C
ATOM   2382  N   LEU A 310      42.059  41.654  19.372  1.00 40.25           N
ATOM   2383  CA  LEU A 310      41.436  40.596  20.180  1.00 39.46           C
ATOM   2384  C   LEU A 310      39.971  40.434  19.884  1.00 38.93           C
ATOM   2385  O   LEU A 310      39.288  41.412  19.624  1.00 39.65           O
ATOM   2386  CB  LEU A 310      41.526  40.916  21.658  1.00 39.21           C
ATOM   2387  CG  LEU A 310      42.486  40.099  22.508  1.00 38.87           C
ATOM   2388  CD1 LEU A 310      43.727  39.738  21.750  1.00 38.58           C
ATOM   2389  CD2 LEU A 310      42.817  40.926  23.735  1.00 39.01           C
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ATOM	2390	N	LYS	A	311	39.462	39.217	19.957	1.00 37.90	N
ATOM	2391	CA	LYS	A	311	38.036	39.029	19.731	1.00 37.53	C
ATOM	2392	C	LYS	A	311	37.217	39.359	20.978	1.00 36.85	C
ATOM	2393	O	LYS	A	311	37.705	39.272	22.092	1.00 36.85	O
ATOM	2394	CB	LYS	A	311	37.746	37.609	19.274	1.00 37.54	C
ATOM	2395	N	ALA	A	312	35.965	39.736	20.793	1.00 36.18	N
ATOM	2396	CA	ALA	A	312	35.112	40.015	21.937	1.00 35.92	C
ATOM	2397	C	ALA	A	312	35.232	38.994	23.058	1.00 35.88	C
ATOM	2398	O	ALA	A	312	35.347	39.384	24.213	1.00 35.99	O
ATOM	2399	CB	ALA	A	312	33.665	40.115	21.526	1.00 35.50	C
ATOM	2400	N	HIS	A	313	35.221	37.700	22.739	1.00 35.71	N
ATOM	2401	CA	HIS	A	313	35.136	36.709	23.797	1.00 35.52	C
ATOM	2402	C	HIS	A	313	36.429	36.694	24.517	1.00 35.31	C
ATOM	2403	O	HIS	A	313	36.489	36.278	25.667	1.00 35.53	O
ATOM	2404	CB	HIS	A	313	34.768	35.291	23.313	1.00 35.89	C
ATOM	2405	CG	HIS	A	313	35.844	34.613	22.535	1.00 36.41	C
ATOM	2406	ND1	HIS	A	313	36.097	34.905	21.214	1.00 38.71	N
ATOM	2407	CD2	HIS	A	313	36.741	33.665	22.889	1.00 37.90	C
ATOM	2408	CE1	HIS	A	313	37.111	34.175	20.789	1.00 38.65	C
ATOM	2409	NE2	HIS	A	313	37.524	33.416	21.788	1.00 38.60	N
ATOM	2410	N	GLN	A	314	37.478	37.162	23.861	1.00 35.08	N
ATOM	2411	CA	GLN	A	314	38.760	37.203	24.535	1.00 35.00	C
ATOM	2412	C	GLN	A	314	38.706	38.301	25.576	1.00 34.62	C
ATOM	2413	O	GLN	A	314	39.145	38.109	26.703	1.00 34.28	O
ATOM	2414	CB	GLN	A	314	39.924	37.399	23.558	1.00 35.10	C
ATOM	2415	CG	GLN	A	314	40.091	36.229	22.597	1.00 35.42	C
ATOM	2416	CD	GLN	A	314	41.107	36.478	21.500	1.00 35.10	C
ATOM	2417	OE1	GLN	A	314	40.938	37.377	20.671	1.00 35.86	O
ATOM	2418	NE2	GLN	A	314	42.150	35.666	21.476	1.00 34.32	N
ATOM	2419	N	LYS	A	315	38.173	39.454	25.197	1.00 34.70	N
ATOM	2420	CA	LYS	A	315	38.009	40.539	26.152	1.00 35.01	C
ATOM	2421	C	LYS	A	315	37.164	40.063	27.320	1.00 34.67	C
ATOM	2422	O	LYS	A	315	37.485	40.325	28.467	1.00 34.81	O
ATOM	2423	CB	LYS	A	315	37.395	41.766	25.501	1.00 35.19	C
ATOM	2424	CG	LYS	A	315	38.344	42.447	24.563	1.00 35.85	C
ATOM	2425	CD	LYS	A	315	37.703	43.636	23.931	1.00 37.25	C
ATOM	2426	CE	LYS	A	315	38.657	44.348	23.001	1.00 39.28	C
ATOM	2427	NZ	LYS	A	315	37.969	45.430	22.222	1.00 40.34	N
ATOM	2428	N	VAL	A	316	36.117	39.314	27.040	1.00 34.30	N
ATOM	2429	CA	VAL	A	316	35.321	38.787	28.118	1.00 34.31	C
ATOM	2430	C	VAL	A	316	36.175	37.925	29.047	1.00 34.37	C
ATOM	2431	O	VAL	A	316	36.071	38.023	30.273	1.00 34.57	O
ATOM	2432	CB	VAL	A	316	34.138	37.992	27.606	1.00 34.39	C
ATOM	2433	CG1	VAL	A	316	33.334	37.434	28.794	1.00 34.91	C
ATOM	2434	CG2	VAL	A	316	33.258	38.873	26.719	1.00 33.60	C
ATOM	2435	N	ALA	A	317	37.011	37.072	28.475	1.00 34.24	N
ATOM	2436	CA	ALA	A	317	37.907	36.267	29.288	1.00 34.17	C
ATOM	2437	C	ALA	A	317	38.744	37.160	30.166	1.00 34.10	C
ATOM	2438	O	ALA	A	317	38.919	36.906	31.352	1.00 33.87	O
ATOM	2439	CB	ALA	A	317	38.813	35.459	28.431	1.00 34.02	C
ATOM	2440	N	ILE	A	318	39.274	38.216	29.574	1.00 34.29	N
ATOM	2441	CA	ILE	A	318	40.178	39.062	30.322	1.00 34.26	C
ATOM	2442	C	ILE	A	318	39.467	39.611	31.546	1.00 33.99	C
ATOM	2443	O	ILE	A	318	39.993	39.556	32.661	1.00 33.96	O
ATOM	2444	CB	ILE	A	318	40.755	40.171	29.447	1.00 33.98	C
ATOM	2445	CG1	ILE	A	318	41.775	39.558	28.489	1.00 34.02	C
ATOM	2446	CG2	ILE	A	318	41.429	41.188	30.323	1.00 33.92	C
ATOM	2447	CD1	ILE	A	318	42.356	40.498	27.428	1.00 33.97	C
ATOM	2448	N	MET	A	319	38.241	40.068	31.337	1.00 33.55	N
ATOM	2449	CA	MET	A	319	37.499	40.741	32.383	1.00 33.41	C
ATOM	2450	C	MET	A	319	37.196	39.772	33.496	1.00 33.38	C

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ATOM   2451  O   MET A 319      37.238  40.101  34.669  1.00 33.32           O
ATOM   2452  CB  MET A 319      36.193  41.308  31.827  1.00 33.31           C
ATOM   2453  CG  MET A 319      36.361  42.521  30.951  1.00 32.96           C
ATOM   2454  SD  MET A 319      34.812  43.355  30.617  1.00 33.05           S
ATOM   2455  CE  MET A 319      34.119  42.299  29.410  1.00 33.43           C
ATOM   2456  N   ARG A 320      36.873  38.558  33.121  1.00 33.68           N
ATOM   2457  CA  ARG A 320      36.575  37.568  34.112  1.00 33.61           C
ATOM   2458  C   ARG A 320      37.796  37.392  34.996  1.00 33.82           C
ATOM   2459  O   ARG A 320      37.719  37.448  36.225  1.00 33.48           O
ATOM   2460  CB  ARG A 320      36.211  36.292  33.402  1.00 33.39           C
ATOM   2461  CG  ARG A 320      34.875  36.406  32.725  1.00 33.88           C
ATOM   2462  CD  ARG A 320      34.268  35.080  32.340  1.00 34.20           C
ATOM   2463  NE  ARG A 320      34.217  34.215  33.507  1.00 33.14           N
ATOM   2464  CZ  ARG A 320      33.159  34.103  34.260  1.00 33.15           C
ATOM   2465  NH1 ARG A 320      32.077  34.762  33.933  1.00 33.83           N
ATOM   2466  NH2 ARG A 320      33.170  33.338  35.331  1.00 34.46           N
ATOM   2467  N   ASN A 321      38.941  37.232  34.355  1.00 33.92           N
ATOM   2468  CA  ASN A 321      40.143  36.978  35.085  1.00 34.08           C
ATOM   2469  C   ASN A 321      40.486  38.141  36.018  1.00 34.26           C
ATOM   2470  O   ASN A 321      40.874  37.919  37.164  1.00 34.14           O
ATOM   2471  CB  ASN A 321      41.271  36.616  34.119  1.00 34.30           C
ATOM   2472  CG  ASN A 321      41.195  35.161  33.663  1.00 34.44           C
ATOM   2473  OD1 ASN A 321      40.829  34.273  34.434  1.00 34.16           O
ATOM   2474  ND2 ASN A 321      41.522  34.918  32.402  1.00 35.05           N
ATOM   2475  N   ILE A 322      40.318  39.379  35.569  1.00 34.24           N
ATOM   2476  CA  ILE A 322      40.634  40.488  36.448  1.00 34.25           C
ATOM   2477  C   ILE A 322      39.781  40.408  37.701  1.00 33.85           C
ATOM   2478  O   ILE A 322      40.250  40.711  38.789  1.00 34.16           O
ATOM   2479  CB  ILE A 322      40.412  41.837  35.760  1.00 34.70           C
ATOM   2480  CG1 ILE A 322      41.338  41.993  34.558  1.00 35.34           C
ATOM   2481  CG2 ILE A 322      40.651  43.007  36.748  1.00 35.37           C
ATOM   2482  CD1 ILE A 322      42.778  41.928  34.895  1.00 36.17           C
ATOM   2483  N   GLU A 323      38.525  40.013  37.558  1.00 33.42           N
ATOM   2484  CA  GLU A 323      37.636  39.935  38.704  1.00 32.97           C
ATOM   2485  C   GLU A 323      38.085  38.842  39.652  1.00 33.11           C
ATOM   2486  O   GLU A 323      38.067  39.001  40.864  1.00 32.66           O
ATOM   2487  CB  GLU A 323      36.199  39.673  38.256  1.00 32.73           C
ATOM   2488  CG  GLU A 323      35.543  40.907  37.672  1.00 33.02           C
ATOM   2489  CD  GLU A 323      34.166  40.693  37.057  1.00 32.91           C
ATOM   2490  OE1 GLU A 323      33.193  40.309  37.740  1.00 31.94           O
ATOM   2491  OE2 GLU A 323      34.048  40.961  35.856  1.00 33.81           O
ATOM   2492  N   LYS A 324      38.497  37.720  39.088  1.00 33.56           N
ATOM   2493  CA  LYS A 324      38.882  36.588  39.895  1.00 33.72           C
ATOM   2494  C   LYS A 324      40.138  36.937  40.670  1.00 34.09           C
ATOM   2495  O   LYS A 324      40.228  36.664  41.859  1.00 34.15           O
ATOM   2496  CB  LYS A 324      39.119  35.368  39.012  1.00 33.73           C
ATOM   2497  CG  LYS A 324      37.877  34.766  38.353  1.00 33.83           C
ATOM   2498  CD  LYS A 324      38.355  33.673  37.440  1.00 33.70           C
ATOM   2499  CE  LYS A 324      37.294  32.883  36.723  1.00 33.57           C
ATOM   2500  NZ  LYS A 324      37.993  31.761  35.984  1.00 32.76           N
ATOM   2501  N   MET A 325      41.098  37.558  39.995  1.00 34.73           N
ATOM   2502  CA  MET A 325      42.380  37.915  40.609  1.00 35.32           C
ATOM   2503  C   MET A 325      42.248  38.883  41.766  1.00 35.06           C
ATOM   2504  O   MET A 325      42.888  38.729  42.808  1.00 34.50           O
ATOM   2505  CB  MET A 325      43.328  38.501  39.563  1.00 35.57           C
ATOM   2506  CG  MET A 325      43.962  37.419  38.724  1.00 36.96           C
ATOM   2507  SD  MET A 325      44.984  37.973  37.360  1.00 40.43           S
ATOM   2508  CE  MET A 325      45.710  39.363  38.037  1.00 41.05           C
ATOM   2509  N   LEU A 326      41.427  39.891  41.555  1.00 35.32           N
ATOM   2510  CA  LEU A 326      41.178  40.895  42.570  1.00 35.83           C
ATOM   2511  C   LEU A 326      40.556  40.230  43.770  1.00 35.60           C
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ATOM   2512  O   LEU A 326      40.914  40.507  44.910  1.00 35.34      O
ATOM   2513  CB  LEU A 326      40.216  41.929  42.026  1.00 36.07      C
ATOM   2514  CG  LEU A 326      40.721  43.321  41.689  1.00 37.48      C
ATOM   2515  CD1 LEU A 326      42.221  43.442  41.537  1.00 38.59      C
ATOM   2516  CD2 LEU A 326      40.049  43.692  40.413  1.00 38.65      C
ATOM   2517  N   GLY A 327      39.613  39.341  43.493  1.00 35.59      N
ATOM   2518  CA  GLY A 327      38.947  38.604  44.538  1.00 35.54      C
ATOM   2519  C   GLY A 327      39.983  37.998  45.443  1.00 35.62      C
ATOM   2520  O   GLY A 327      40.023  38.258  46.641  1.00 35.52      O
ATOM   2521  N   GLU A 328      40.863  37.209  44.851  1.00 35.84      N
ATOM   2522  CA  GLU A 328      41.831  36.486  45.632  1.00 35.91      C
ATOM   2523  C   GLU A 328      42.783  37.424  46.298  1.00 35.44      C
ATOM   2524  O   GLU A 328      43.086  37.272  47.465  1.00 35.60      O
ATOM   2525  CB  GLU A 328      42.584  35.513  44.750  1.00 36.21      C
ATOM   2526  CG  GLU A 328      41.675  34.419  44.226  1.00 38.20      C
ATOM   2527  CD  GLU A 328      41.854  33.088  44.941  1.00 41.33      C
ATOM   2528  OE1 GLU A 328      42.244  33.084  46.138  1.00 42.40      O
ATOM   2529  OE2 GLU A 328      41.608  32.034  44.292  1.00 43.59      O
ATOM   2530  N   ALA A 329      43.220  38.435  45.577  1.00 35.11      N
ATOM   2531  CA  ALA A 329      44.259  39.282  46.110  1.00 34.85      C
ATOM   2532  C   ALA A 329      43.790  40.103  47.296  1.00 34.75      C
ATOM   2533  O   ALA A 329      44.533  40.282  48.258  1.00 34.53      O
ATOM   2534  CB  ALA A 329      44.778  40.163  45.046  1.00 34.85      C
ATOM   2535  N   LEU A 330      42.567  40.613  47.214  1.00 34.62      N
ATOM   2536  CA  LEU A 330      41.996  41.399  48.291  1.00 34.55      C
ATOM   2537  C   LEU A 330      41.478  40.555  49.448  1.00 34.90      C
ATOM   2538  O   LEU A 330      41.234  41.072  50.532  1.00 35.33      O
ATOM   2539  CB  LEU A 330      40.851  42.245  47.766  1.00 34.31      C
ATOM   2540  CG  LEU A 330      41.202  43.322  46.743  1.00 34.06      C
ATOM   2541  CD1 LEU A 330      39.942  43.965  46.258  1.00 34.23      C
ATOM   2542  CD2 LEU A 330      42.078  44.382  47.285  1.00 34.05      C
ATOM   2543  N   GLY A 331      41.295  39.262  49.232  1.00 35.23      N
ATOM   2544  CA  GLY A 331      40.794  38.401  50.285  1.00 35.49      C
ATOM   2545  C   GLY A 331      39.306  38.471  50.584  1.00 35.66      C
ATOM   2546  O   GLY A 331      38.849  37.859  51.544  1.00 35.61      O
ATOM   2547  N   ASN A 332      38.547  39.213  49.790  1.00 36.04      N
ATOM   2548  CA  ASN A 332      37.113  39.295  49.992  1.00 36.44      C
ATOM   2549  C   ASN A 332      36.483  39.791  48.732  1.00 36.55      C
ATOM   2550  O   ASN A 332      36.647  40.951  48.381  1.00 37.01      O
ATOM   2551  CB  ASN A 332      36.775  40.275  51.094  1.00 36.54      C
ATOM   2552  CG  ASN A 332      35.311  40.260  51.440  1.00 37.47      C
ATOM   2553  OD1 ASN A 332      34.519  39.541  50.828  1.00 37.83      O
ATOM   2554  ND2 ASN A 332      34.938  41.043  52.444  1.00 39.90      N
ATOM   2555  N   PRO A 333      35.699  38.957  48.078  1.00 36.46      N
ATOM   2556  CA  PRO A 333      35.178  39.338  46.775  1.00 36.43      C
ATOM   2557  C   PRO A 333      34.368  40.590  46.908  1.00 36.32      C
ATOM   2558  O   PRO A 333      34.318  41.384  45.988  1.00 36.36      O
ATOM   2559  CB  PRO A 333      34.278  38.170  46.366  1.00 36.50      C
ATOM   2560  CG  PRO A 333      34.247  37.229  47.489  1.00 36.58      C
ATOM   2561  CD  PRO A 333      35.180  37.668  48.548  1.00 36.54      C
ATOM   2562  N   GLN A 334      33.743  40.800  48.047  1.00 36.44      N
ATOM   2563  CA  GLN A 334      32.906  41.969  48.130  1.00 36.85      C
ATOM   2564  C   GLN A 334      33.748  43.222  48.057  1.00 36.57      C
ATOM   2565  O   GLN A 334      33.218  44.304  47.868  1.00 36.98      O
ATOM   2566  CB  GLN A 334      31.987  41.940  49.348  1.00 37.31      C
ATOM   2567  CG  GLN A 334      30.685  41.151  49.026  1.00 38.95      C
ATOM   2568  CD  GLN A 334      29.669  41.097  50.171  1.00 40.33      C
ATOM   2569  OE1 GLN A 334      29.751  41.872  51.137  1.00 41.70      O
ATOM   2570  NE2 GLN A 334      28.712  40.178  50.061  1.00 39.80      N
ATOM   2571  N   GLU A 335      35.064  43.088  48.159  1.00 35.99      N
ATOM   2572  CA  GLU A 335      35.914  44.261  48.067  1.00 35.53      C
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ATOM   2573  C   GLU A 335      36.229  44.610  46.621  1.00 34.53           C
ATOM   2574  O   GLU A 335      36.715  45.689  46.338  1.00 34.20           O
ATOM   2575  CB  GLU A 335      37.201  44.083  48.894  1.00 35.99           C
ATOM   2576  CG  GLU A 335      37.054  44.507  50.354  1.00 37.38           C
ATOM   2577  CD  GLU A 335      38.382  44.592  51.076  1.00 40.16           C
ATOM   2578  OE1 GLU A 335      39.271  45.318  50.570  1.00 42.04           O
ATOM   2579  OE2 GLU A 335      38.535  43.952  52.153  1.00 41.52           O
ATOM   2580  N   VAL A 336      35.922  43.701  45.706  1.00 33.97           N
ATOM   2581  CA  VAL A 336      36.165  43.901  44.276  1.00 33.49           C
ATOM   2582  C   VAL A 336      35.537  45.159  43.670  1.00 33.00           C
ATOM   2583  O   VAL A 336      36.194  45.904  42.946  1.00 33.01           O
ATOM   2584  CB  VAL A 336      35.696  42.678  43.473  1.00 33.36           C
ATOM   2585  CG1 VAL A 336      35.726  42.951  41.992  1.00 34.05           C
ATOM   2586  CG2 VAL A 336      36.582  41.509  43.755  1.00 33.01           C
ATOM   2587  N   GLY A 337      34.270  45.406  43.926  1.00 32.41           N
ATOM   2588  CA  GLY A 337      33.675  46.592  43.351  1.00 32.21           C
ATOM   2589  C   GLY A 337      34.332  47.903  43.724  1.00 31.72           C
ATOM   2590  O   GLY A 337      34.682  48.711  42.859  1.00 31.40           O
ATOM   2591  N   PRO A 338      34.433  48.163  45.013  1.00 31.50           N
ATOM   2592  CA  PRO A 338      35.025  49.415  45.470  1.00 31.47           C
ATOM   2593  C   PRO A 338      36.387  49.648  44.846  1.00 31.60           C
ATOM   2594  O   PRO A 338      36.655  50.756  44.386  1.00 31.51           O
ATOM   2595  CB  PRO A 338      35.065  49.230  46.977  1.00 31.27           C
ATOM   2596  CG  PRO A 338      33.883  48.376  47.218  1.00 31.08           C
ATOM   2597  CD  PRO A 338      33.933  47.359  46.137  1.00 31.28           C
ATOM   2598  N   LEU A 339      37.219  48.620  44.765  1.00 31.80           N
ATOM   2599  CA  LEU A 339      38.531  48.825  44.182  1.00 32.25           C
ATOM   2600  C   LEU A 339      38.431  49.269  42.740  1.00 32.12           C
ATOM   2601  O   LEU A 339      39.130  50.188  42.320  1.00 32.25           O
ATOM   2602  CB  LEU A 339      39.395  47.581  44.278  1.00 32.49           C
ATOM   2603  CG  LEU A 339      40.853  47.920  43.962  1.00 33.78           C
ATOM   2604  CD1 LEU A 339      41.793  47.121  44.797  1.00 34.64           C
ATOM   2605  CD2 LEU A 339      41.146  47.681  42.516  1.00 34.50           C
ATOM   2606  N   LEU A 340      37.567  48.607  41.978  1.00 32.12           N
ATOM   2607  CA  LEU A 340      37.385  48.963  40.584  1.00 31.85           C
ATOM   2608  C   LEU A 340      36.854  50.376  40.483  1.00 31.56           C
ATOM   2609  O   LEU A 340      37.342  51.169  39.701  1.00 31.42           O
ATOM   2610  CB  LEU A 340      36.468  47.975  39.888  1.00 31.90           C
ATOM   2611  CG  LEU A 340      37.089  46.598  39.669  1.00 32.44           C
ATOM   2612  CD1 LEU A 340      36.028  45.636  39.132  1.00 33.11           C
ATOM   2613  CD2 LEU A 340      38.281  46.660  38.728  1.00 31.95           C
ATOM   2614  N   ASN A 341      35.865  50.717  41.282  1.00 31.61           N
ATOM   2615  CA  ASN A 341      35.384  52.083  41.231  1.00 31.82           C
ATOM   2616  C   ASN A 341      36.484  53.109  41.525  1.00 31.45           C
ATOM   2617  O   ASN A 341      36.600  54.119  40.845  1.00 30.80           O
ATOM   2618  CB  ASN A 341      34.212  52.260  42.177  1.00 31.97           C
ATOM   2619  CG  ASN A 341      32.901  51.883  41.532  1.00 32.77           C
ATOM   2620  OD1 ASN A 341      32.426  52.568  40.614  1.00 34.75           O
ATOM   2621  ND2 ASN A 341      32.310  50.789  41.992  1.00 31.86           N
ATOM   2622  N   THR A 342      37.301  52.835  42.530  1.00 31.40           N
ATOM   2623  CA  THR A 342      38.380  53.739  42.880  1.00 31.27           C
ATOM   2624  C   THR A 342      39.317  53.842  41.707  1.00 31.14           C
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ATOM   2626  CB  THR A 342      39.146  53.217  44.097  1.00 31.43           C
ATOM   2627  OG1 THR A 342      38.448  53.565  45.299  1.00 30.95           O
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ATOM   2631  C   MET A 343      39.970  53.639  38.785  1.00 31.49           C
ATOM   2632  O   MET A 343      40.804  54.361  38.255  1.00 31.46           O
ATOM   2633  CB  MET A 343      40.516  51.310  39.314  1.00 31.79           C
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ATOM   2634  CG  MET A 343      41.831  50.662  39.629  1.00 32.65           C
ATOM   2635  SD  MET A 343      42.271  49.379  38.468  1.00 33.09           S
ATOM   2636  CE  MET A 343      41.116  48.304  38.916  1.00 34.22           C
ATOM   2637  N   ILE A 344      38.690  53.641  38.418  1.00 31.31           N
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ATOM   2639  C   ILE A 344      37.708  55.787  37.533  1.00 31.14           C
ATOM   2640  O   ILE A 344      37.752  56.630  36.640  1.00 31.01           O
ATOM   2641  CB  ILE A 344      37.272  53.708  36.362  1.00 31.86           C
ATOM   2642  CG1 ILE A 344      35.870  53.866  36.928  1.00 33.16           C
ATOM   2643  CG2 ILE A 344      37.633  52.229  36.118  1.00 32.09           C
ATOM   2644  CD1 ILE A 344      34.876  53.232  36.072  1.00 35.18           C
ATOM   2645  N   LYS A 345      37.131  56.050  38.698  1.00 30.88           N
ATOM   2646  CA  LYS A 345      36.455  57.334  38.758  1.00 30.94           C
ATOM   2647  C   LYS A 345      37.412  58.468  38.853  1.00 30.72           C
ATOM   2648  O   LYS A 345      38.250  58.558  39.743  1.00 30.61           O
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ATOM   2651  CD  LYS A 345      33.970  56.273  41.340  1.00 33.62           C
ATOM   2652  CE  LYS A 345      33.514  56.873  42.665  1.00 34.71           C
ATOM   2653  NZ  LYS A 345      34.302  56.317  43.840  1.00 36.28           N
ATOM   2654  N   GLY A 346      37.280  59.332  37.870  1.00 30.83           N
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ATOM   2656  C   GLY A 346      39.345  60.195  37.001  1.00 30.25           C
ATOM   2657  O   GLY A 346      40.147  61.066  36.745  1.00 30.00           O
ATOM   2658  N   ARG A 347      39.454  58.953  36.564  1.00 30.42           N
ATOM   2659  CA  ARG A 347      40.652  58.496  35.923  1.00 30.66           C
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ATOM   2661  O   ARG A 347      41.033  58.241  33.588  1.00 30.30           O
ATOM   2662  CB  ARG A 347      41.350  57.526  36.860  1.00 30.88           C
ATOM   2663  CG  ARG A 347      41.786  58.177  38.171  1.00 30.97           C
ATOM   2664  CD  ARG A 347      43.129  57.701  38.636  1.00 31.35           C
ATOM   2665  NE  ARG A 347      43.128  56.255  38.597  1.00 30.88           N
ATOM   2666  CZ  ARG A 347      44.088  55.482  38.128  1.00 29.55           C
ATOM   2667  NH1 ARG A 347      45.237  55.962  37.667  1.00 28.44           N
ATOM   2668  NH2 ARG A 347      43.876  54.181  38.147  1.00 29.95           N
ATOM   2669  N   TYR A 348      39.446  56.953  34.480  1.00 31.67           N
ATOM   2670  CA  TYR A 348      39.143  56.377  33.176  1.00 32.27           C
ATOM   2671  C   TYR A 348      37.726  56.574  32.689  1.00 33.10           C
ATOM   2672  O   TYR A 348      37.425  56.212  31.557  1.00 33.12           O
ATOM   2673  CB  TYR A 348      39.422  54.896  33.154  1.00 31.96           C
ATOM   2674  CG  TYR A 348      40.860  54.527  33.253  1.00 32.06           C
ATOM   2675  CD1 TYR A 348      41.652  54.424  32.114  1.00 31.60           C
ATOM   2676  CD2 TYR A 348      41.435  54.256  34.483  1.00 31.75           C
ATOM   2677  CE1 TYR A 348      42.980  54.061  32.203  1.00 31.08           C
ATOM   2678  CE2 TYR A 348      42.761  53.897  34.580  1.00 32.11           C
ATOM   2679  CZ  TYR A 348      43.530  53.800  33.438  1.00 31.05           C
ATOM   2680  OH  TYR A 348      44.845  53.427  33.544  1.00 29.83           O
ATOM   2681  N   ASN A 349      36.850  57.137  33.507  1.00 34.48           N
ATOM   2682  CA  ASN A 349      35.465  57.275  33.083  1.00 35.73           C
ATOM   2683  C   ASN A 349      35.037  58.643  32.595  1.00 36.60           C
ATOM   2684  O   ASN A 349      35.757  59.640  32.508  1.00 37.31           O
ATOM   2685  CB  ASN A 349      34.542  56.900  34.212  1.00 35.62           C
ATOM   2686  CG  ASN A 349      34.635  57.864  35.353  1.00 37.08           C
ATOM   2687  OD1 ASN A 349      35.398  58.840  35.308  1.00 36.55           O
ATOM   2688  ND2 ASN A 349      33.861  57.604  36.403  1.00 39.78           N
ATOM   2689  OXT ASN A 349      33.861  58.757  32.276  1.00 38.11           O
TER    2690       ASN A 349
HETATM 2691 FE   FE2 A1350      23.364  27.586  28.889  1.00 32.45          FE
HETATM 2692  C1  AKG A1351      22.523  25.412  27.792  1.00 37.04           C
HETATM 2693  O1  AKG A1351      23.535  26.092  27.914  1.00 39.03           O
HETATM 2694  O2  AKG A1351      22.557  24.216  27.226  1.00 37.33           O
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HETATM 2695  C2  AKG A1351      21.186  25.964  28.297  1.00 35.25           C
HETATM 2696  O5  AKG A1351      21.175  27.063  28.807  1.00 33.44           O
HETATM 2697  C3  AKG A1351      19.937  25.139  28.167  1.00 36.11           C
HETATM 2698  C4  AKG A1351      18.848  25.738  29.055  1.00 36.50           C
HETATM 2699  C5  AKG A1351      17.464  25.331  28.632  1.00 35.97           C
HETATM 2700  O3  AKG A1351      17.276  24.627  27.656  1.00 36.64           O
HETATM 2701  O4  AKG A1351      16.432  25.771  29.338  1.00 36.31           O
HETATM 2702  S   SO4 A1352       0.300  25.196  43.477  1.00 80.75           S
HETATM 2703  O1  SO4 A1352       1.094  26.117  44.306  1.00 78.50           O
HETATM 2704  O2  SO4 A1352       1.221  24.413  42.644  1.00 78.51           O
HETATM 2705  O3  SO4 A1352      -0.470  24.282  44.334  1.00 79.54           O
HETATM 2706  O4  SO4 A1352      -0.640  25.951  42.633  1.00 78.07           O
HETATM 2707  S   SO4 A1353       1.825  28.603  29.515  1.00 77.38           S
HETATM 2708  O1  SO4 A1353       3.041  29.212  30.061  1.00 76.05           O
HETATM 2709  O2  SO4 A1353       2.144  27.528  28.574  1.00 75.24           O
HETATM 2710  O3  SO4 A1353       1.090  28.086  30.675  1.00 76.52           O
HETATM 2711  O4  SO4 A1353       1.011  29.586  28.783  1.00 76.04           O
HETATM 2712  S   SO4 A1354      34.403  30.284  38.043  1.00 78.17           S
HETATM 2713  O1  SO4 A1354      34.921  31.567  38.516  1.00 75.93           O
HETATM 2714  O2  SO4 A1354      35.240  29.158  38.450  1.00 77.42           O
HETATM 2715  O3  SO4 A1354      33.112  30.084  38.686  1.00 75.59           O
HETATM 2716  O4  SO4 A1354      34.303  30.307  36.581  1.00 74.60           O
HETATM 2717  O   HOH Z   1      25.824  26.442  26.175  1.00 46.43           O
HETATM 2718  O   HOH Z   2      27.811  27.709  24.637  1.00 41.32           O
HETATM 2719  O   HOH Z   3      27.367  30.233  25.742  1.00 38.18           O
CONECT 1478 2691
CONECT 1498 2691
CONECT 2167 2691
CONECT 2691 2696 2693 1478 2167 1498
CONECT 2692 2693 2694 2695
CONECT 2693 2692 2691
CONECT 2694 2692
CONECT 2695 2692 2696 2697
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CONECT 2697 2695 2698
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CONECT 2700 2699
CONECT 2701 2699
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CONECT 2703 2702
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CONECT 2705 2702
CONECT 2706 2702
CONECT 2707 2708 2709 2710 2711
CONECT 2708 2707
CONECT 2709 2707
CONECT 2710 2707
CONECT 2711 2707
CONECT 2712 2713 2714 2715 2716
CONECT 2713 2712
CONECT 2714 2712
CONECT 2715 2712
CONECT 2716 2712
MASTER      433    0    5   14   20    0    9    6 2718    1   29   27
END
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CLAIMS

1. A method of identifying, screening, characterising or designing a chemical entity which mimics or binds to FIH, which method comprises comparing a structural model of FIH with a structural model for said chemical entity, wherein said structural model of FIH is derived from structural factors or structural coordinates determined by subjecting to X-ray diffraction measurements a crystal comprising FIH.

2. Use of the structural co-ordinates obtainable by subjecting a crystal comprising FIH to X-ray diffraction measurements and deducing the structural co-ordinates from the diffraction measurements, to identify, screen, characterise, design or modify a chemical entity.

3. A method or use according to claim 1 or 2 in which the structural coordinates are those shown in Table 3.

4. A method or use according to any one of the preceding claims, wherein said chemical entity binds to FIH.

5. A method or use according to any one of the preceding claims, wherein said chemical entity is selected to inhibit the asparaginyl hydroxylase activity of FIH.

6. A method or use according to any one of the preceding claims further comprising contacting said chemical entity with HIF or a fragment thereof or a homologue of either thereof incorporating asparagine 803 with FIH or a homologue thereof which maintains the asparaginyl hydroxylase activity of FIH and monitoring for hydroxylation of asparagine 803.

7. A chemical entity identified by a method for use according to any one of the preceding claims, wherein said chemical entity inhibits the asparaginyl hydroxylase activity of FIH.

8. A chemical entity according to claim 7 wherein said chemical entity inhibits hydroxylation of the asparagine position 803 of HIF by FIH.

9. A chemical entity according to claim 7 wherein said chemical entity inhibits dimerisation of FIH.

10. A chemical entity according to claim 9 wherein said chemical entity binds to residues that form the dimerisation interface of FIH, selected from residues 330 to 346 of FIH.

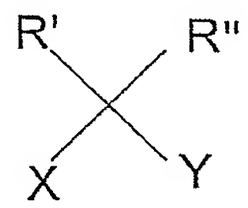
11. A chemical entity according to claim 7 wherein said chemical entity binds to iron, or prevents Fe(II) binding to FIH.

12. A chemical entity according to claim 11, wherein said chemical entity is a compound selected from a thiol, alcohol, phenol, carboxylate, hydroxamate, imidazole or other heterocyclic compound, that binds to iron.

13. A chemical entity according to claim 7 wherein said chemical entity disrupts 2-oxoglutarate binding to FIH.

14. A chemical entity according to claim 13, wherein said chemical entity is R-entiomer of N-oxaloylalanine, procollagen prolyl-hydroxylase and a PHD isozyme.

15. A chemical entity according to claim 13, wherein said chemical entity is a compound of the formula



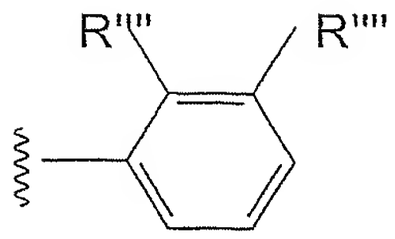
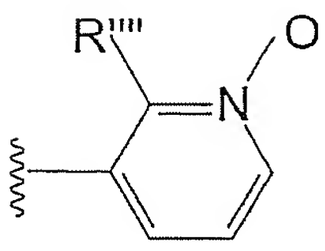
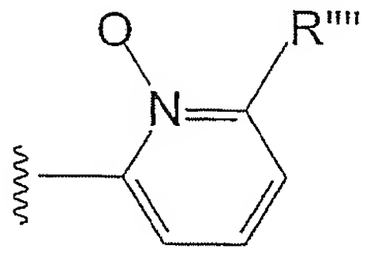
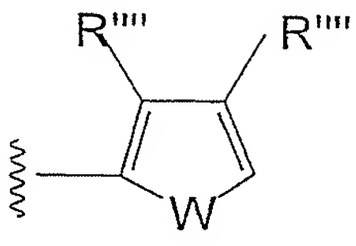
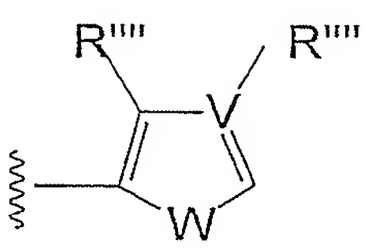
(I)

wherein each of R′ and R", which may be the same or different, is H, F or C_1 to C_3 alkyl or substituted alkyl, CH_2OH, CH_2CO_2H or $CONH_2$, X is COOH, SOOH, or CONHH or an ester thereof, or other group which forms a favourable interaction with one or more of the side chains of Lys-214, Thr-196 and Tyr-145,

Y is - $(CR'''R''')_nZ$, where Z is

- $NR'''COCOOH$, $-NR'''CSCOOH$, - $NR'''COCOSH$,

- $CHSR'''CONR'''R''''$, $-CHOR'''CONR'''OR'''$, - $CHSR'''CONR'''OR'''$ or - $CHOR'''CONR'''NR'''OR'''$, wherein each R′′′, which may be the same or different, is H, alkyl, OH or O-alkyl, n is 0 to 3, or

wherein R'''' is OH, OR''' or NHCOR''', and W is S, NH, or O;

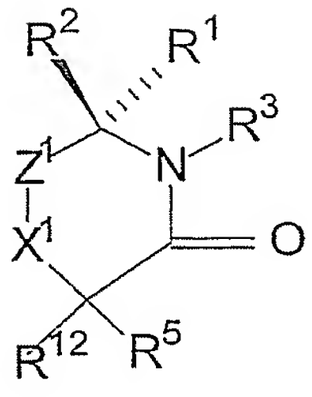
16. A chemical entity according to claim 13 or 15 wherein said chemical entity interferes with the interactions at residues 214, 196 and 145 of FIH, or which interrupts the interactions of 2OG with residues 281, 186, 188, 207 or 196 of FIH.

17. A chemical entity according to claim 16 wherein said chemical entity interrupts binding of FIH for Asn 803 of HIF, preferably, by interfering with binding of HIF at residues 102, 239 or 238 of HIF.

18. A chemical entity according to claim 17 which interferes with Site 1 binding of CAD of HIF to FIH and which exploits electrostatic, hydrogen binding and/or hydrophobic interactions with one or more residues selected from 102, 104, 106, 201, 202, 147, 239, 299-303, 313, 317, 318, 321, 324, 238, 296 or 321 to 324 of FIH.

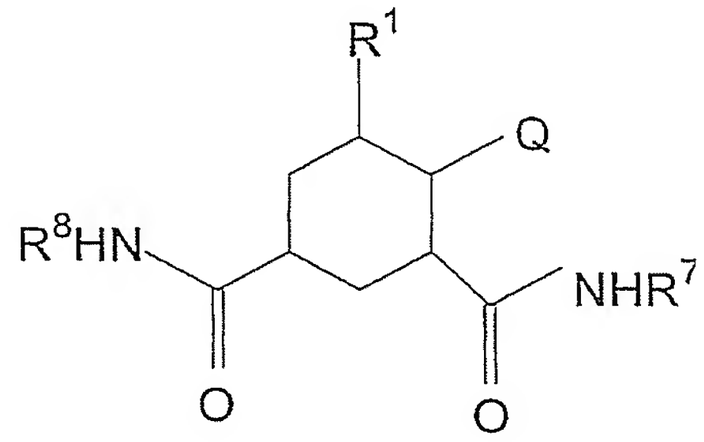
19. A chemical entity according to claim 17 wherein said chemical entity interferes with binding of CAD of HIF to FIH at Site 2, and exploits electrostatic, hydrogen binding and/or hydrophobic interactions with residues 149, 150, 151, 152, 159, 162, 163, 167, 181, 182 ,183, 184 or 185.

20. A chemical entity according to claim 17 wherein said chemical entity is a compound of the formula

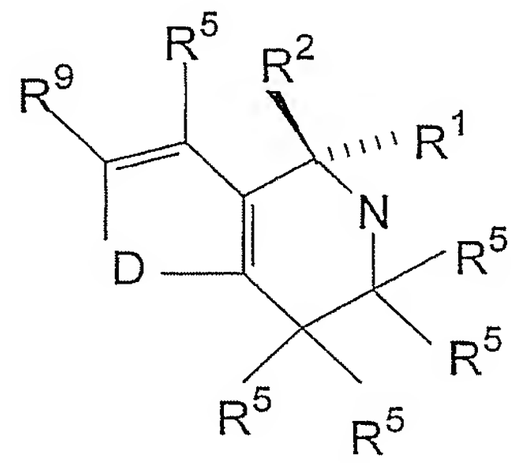


II

21. A chemical entity according to claim 17, wherein said chemical entity is a compound of the formula



22. A chemical entity according to claim 17 wherein said chemical entity is a compound of the formula



IV

23. A chemical entity according to claim 17 wherein said chemical entity is a compound of the formula

X[B]-[C]

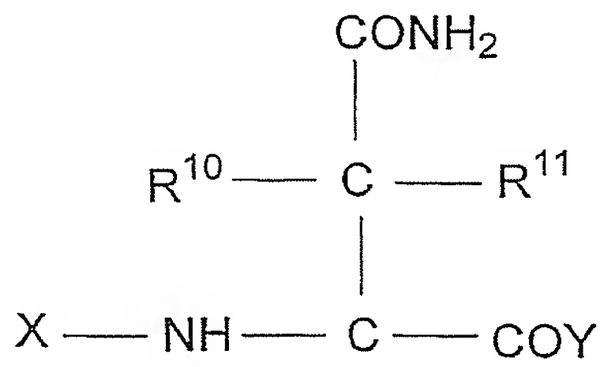
where X is as defined above, B is a linker group and C is an entity binding to part of the CAD binding site of FIH;

24. A chemical entity according to claim 17 wherein said chemical entity is a compound of the formula

X-[B]-[E]

where X and B are as defined above and E is an entity binding to part of the CAD when bonded to HIF.

25. A chemical entity according to claim 7 wherein said chemical entity is a compound of the formula



wherein X represents a valine residue or an analogue thereof and Y represents an alanine residue or an analogue thereof, R^{10} is fluorine or C_1 - C_3 alkyl, and R^{11} is fluorine, C_1 - C_3 alkyl or hydrogen or a corresponding compound R^{11} is absent or R^{10} and R^{11} form a methylene group.

26. A chemical entity according any of one of claims 7 to 25 for use in a method of treatment.

27. A chemical entity according to any of claims 7 to 25 for use in the treatment of a condition associated with increased or decreased HIF levels or activity or the treatment of a condition where it is desired to modulate HIF activity.

28. A chemical entity according to claim 27 wherein said condition is ischaemia, wound healing, auto-, allo- or xeno-transplantation, systemic high blood pressure, cancer or an inflammatory disorder.

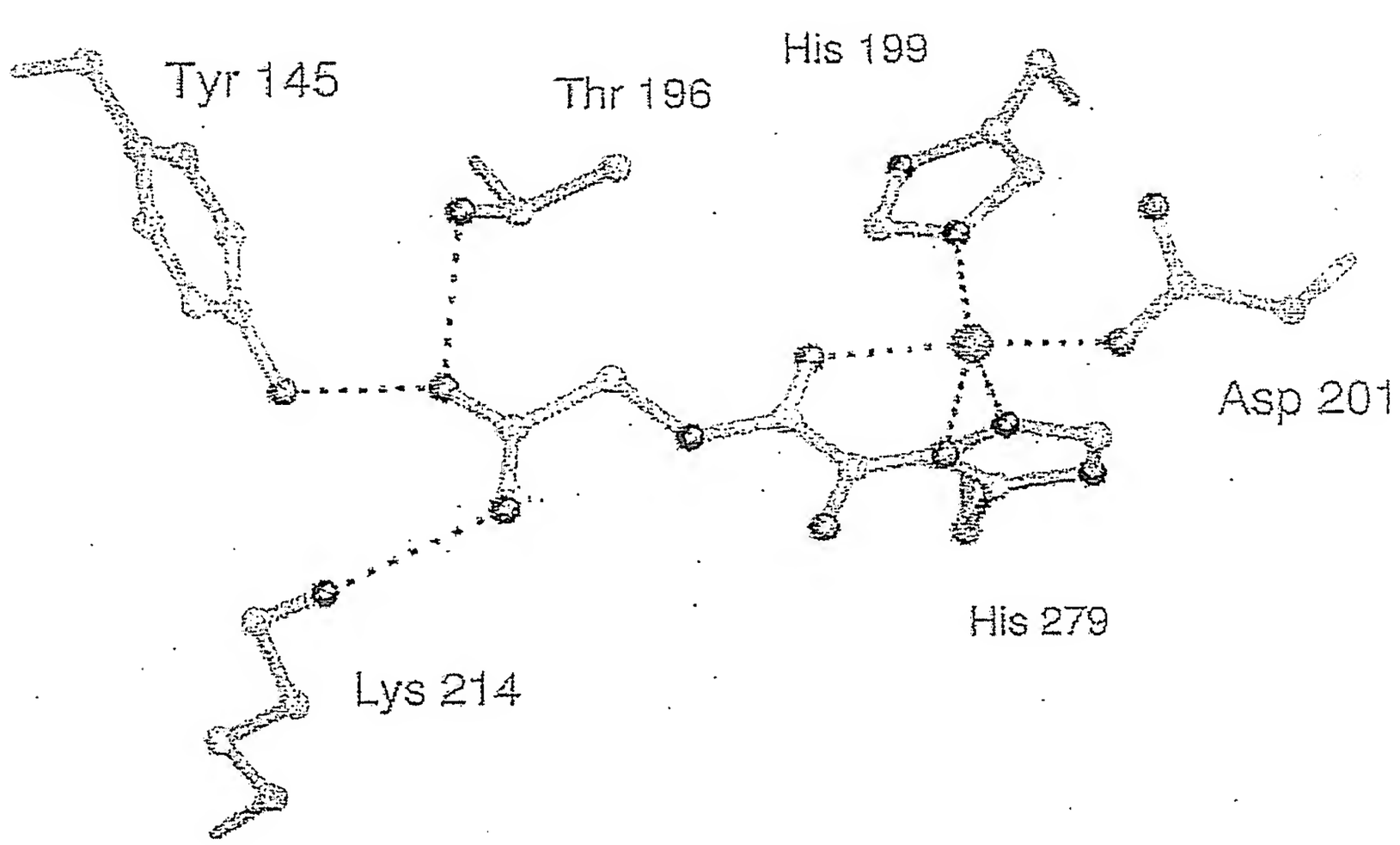


FIGURE 1

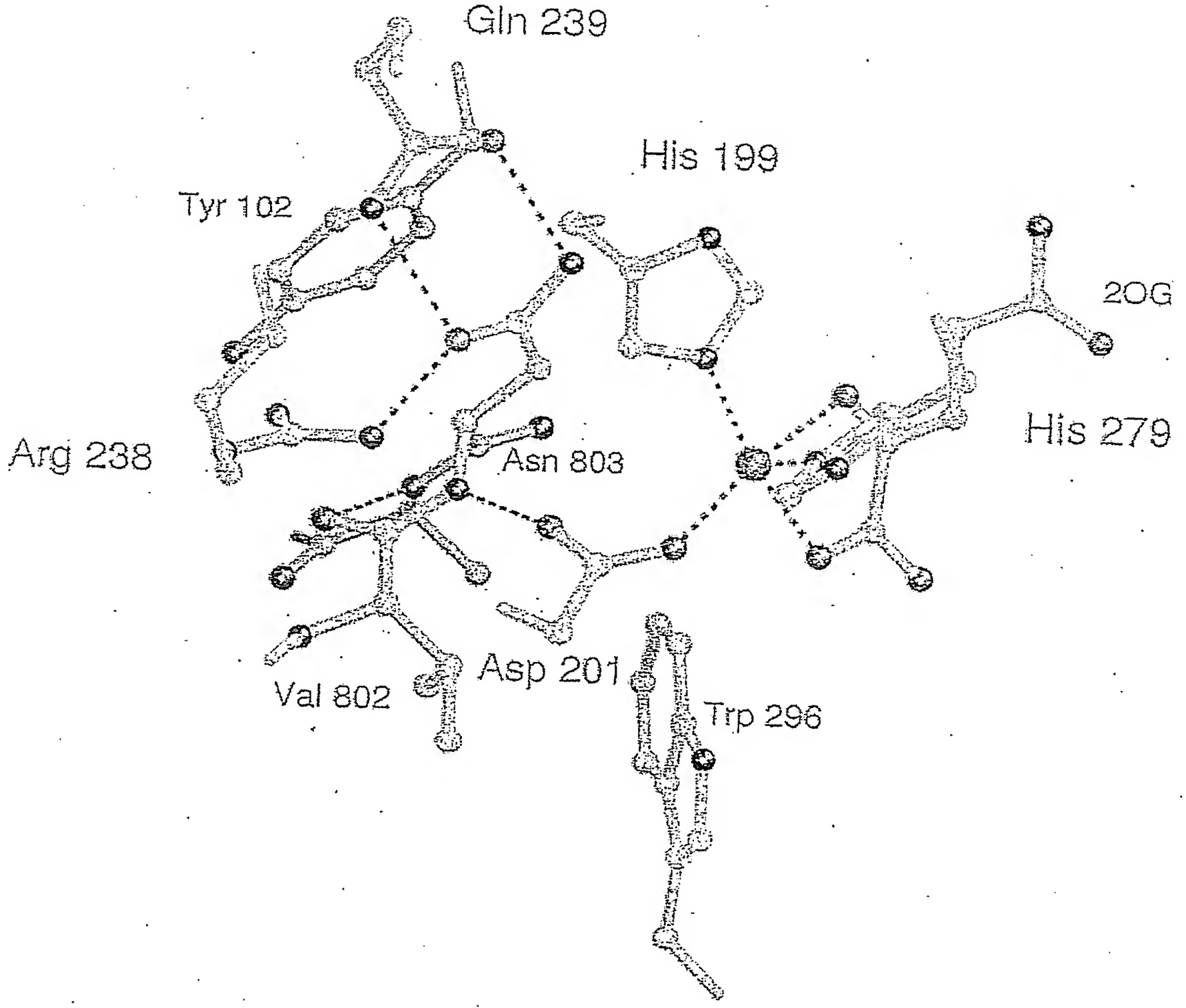

Gln 239
His 199
Tyr 102
2OG
His 279
Arg 238
Asn 803
Asp 201
Val 802
Trp 296

FIGURE 2

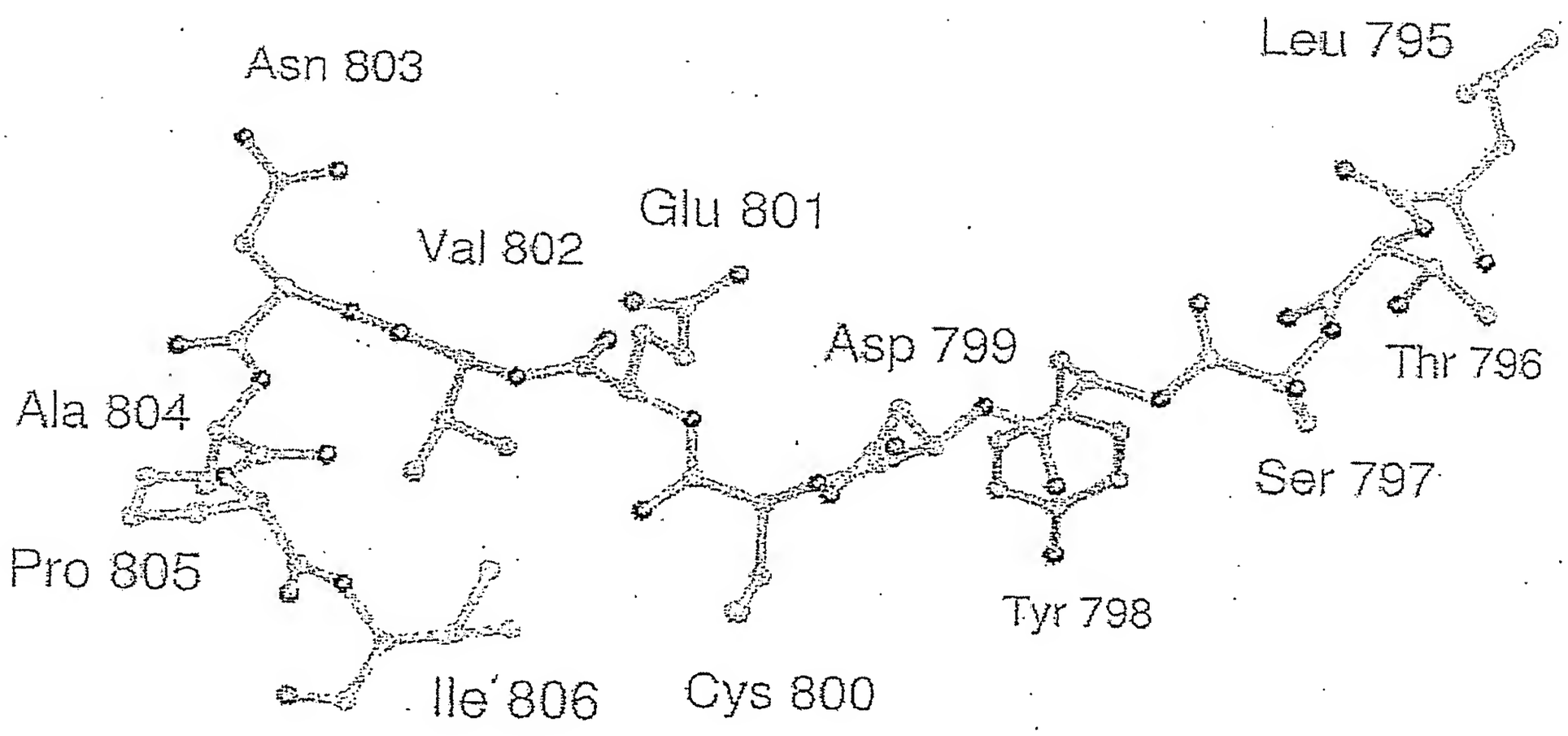

Asn 803
Leu 795
Glu 801
Val 802
Asp 799
Thr 796
Ala 804
Ser 797
Pro 805
Tyr 798
Ile 806
Cys 800

FIGURE 3

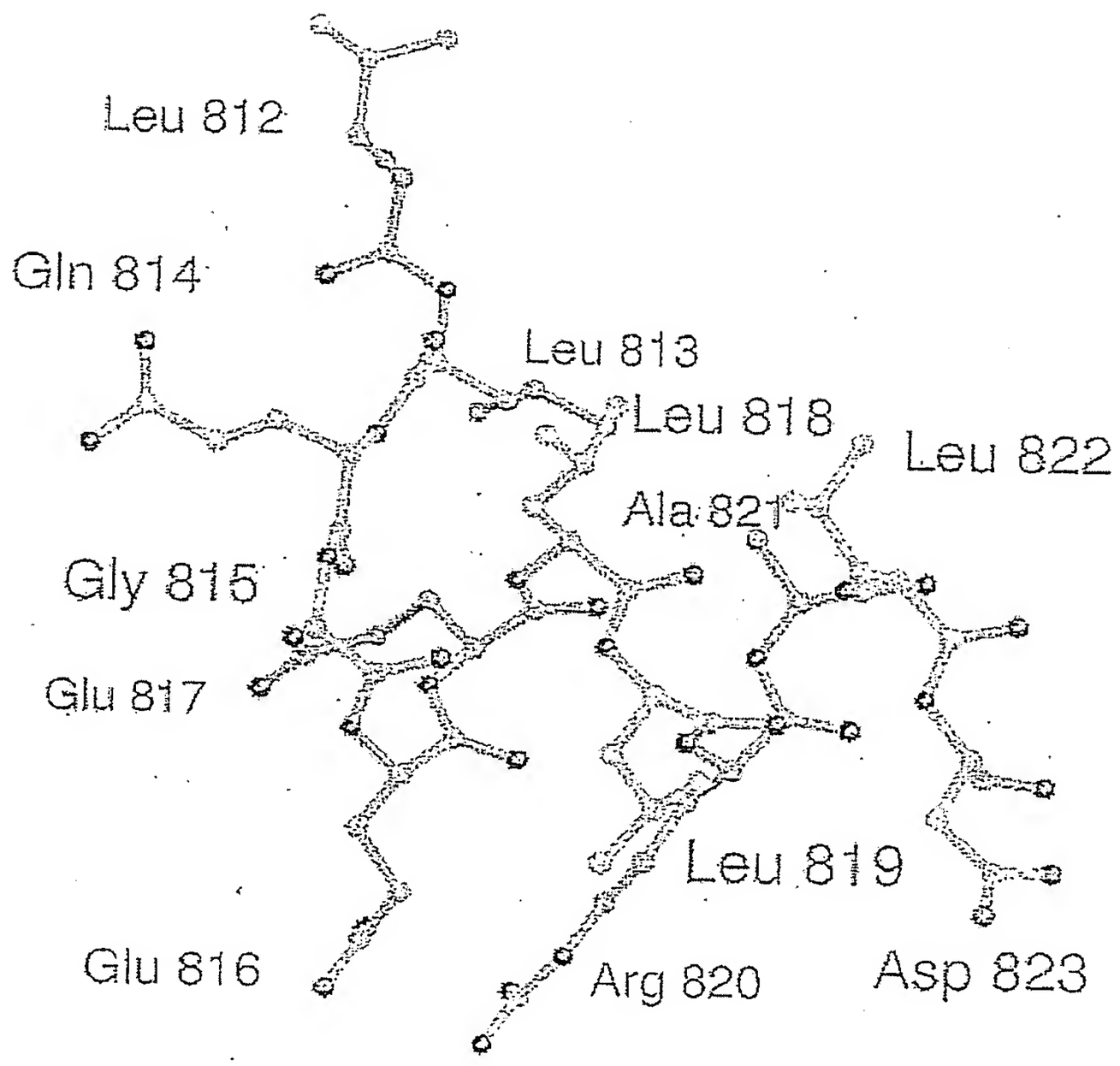

Leu 812
Gln 814
Leu 813
Leu 818
Leu 822
Ala 821
Gly 815
Glu 817
Leu 819
Glu 816
Arg 820
Asp 823

FIGURE 4

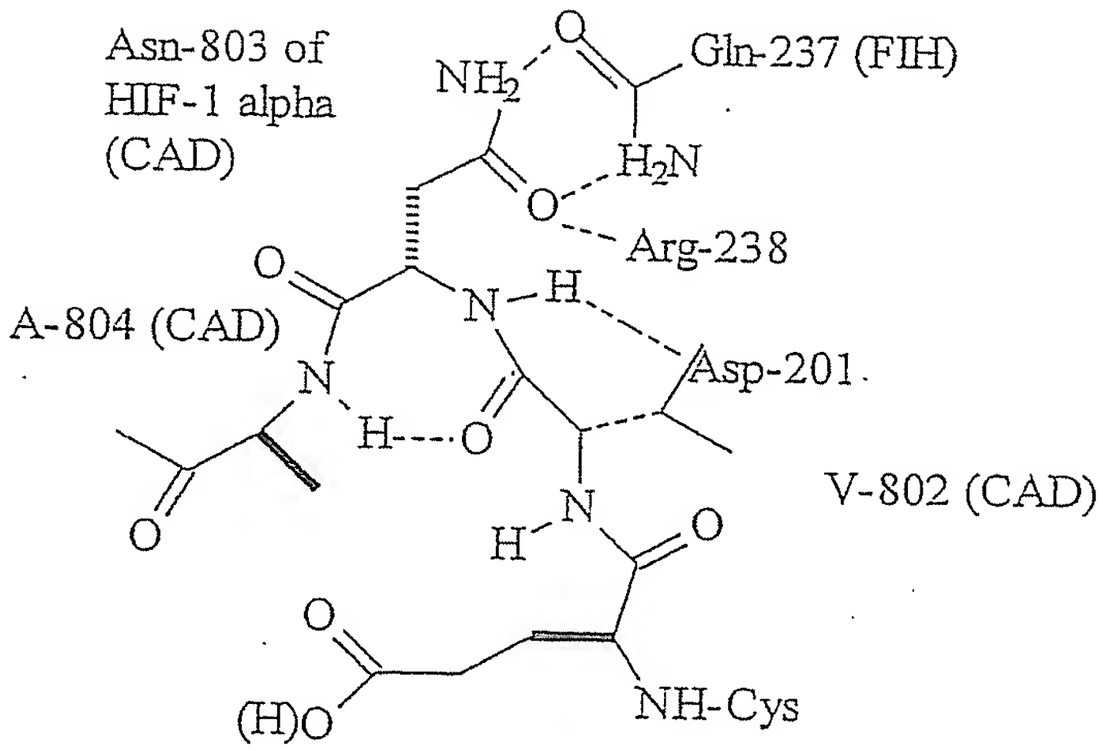

Asn-803 of
HIF-1 alpha
(CAD)
NH2
O
Gln-237 (FIH)
H2N
O
Arg-238
O
N
H
A-804 (CAD)
N
Asp-201
H---O
V-802 (CAD)
O
N
H
O
O
(H)O
NH-Cys

FIGURE 5

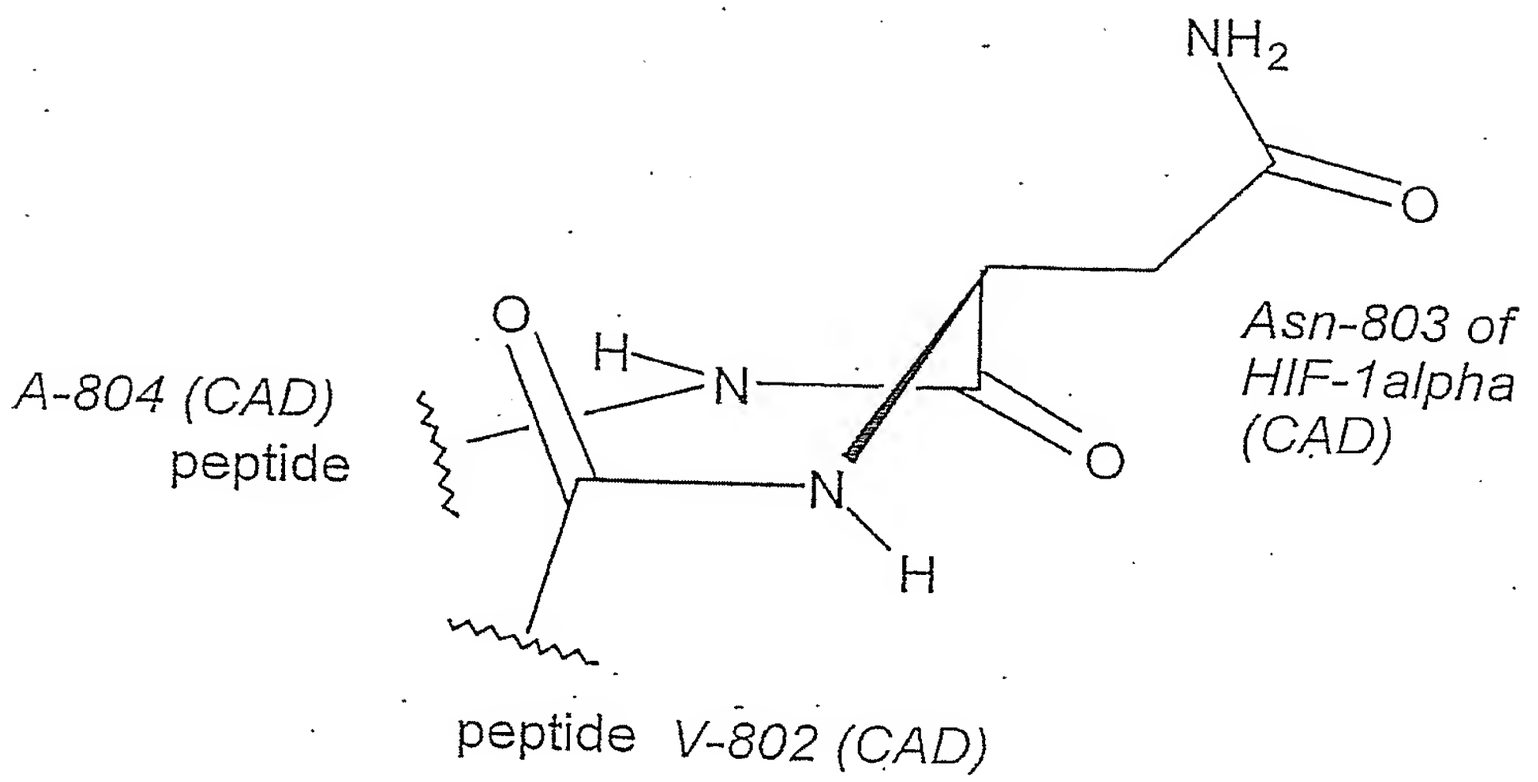

NH2
O
A-804 (CAD)
peptide
O
H
N
N
H
O
Asn-803 of
HIF-1alpha
(CAD)
peptide V-802 (CAD)

FIGURE 6